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CH2MHILL

## TECHNICAL MEMORANDUM

## Results of the March 2009 Vapor Intrusion Evaluation at 103 River Road (Medical Arts Building), Block 93, Edgewater, N.J.

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### Executive Summary

This technical memorandum presents the results from the March 2009 sampling event conducted to evaluate whether a potential vapor intrusion pathway exists at the Medical Arts Building at 103 River Road, Edgewater, New Jersey. The March 2009 sampling event included the collection of three subslab samples and one outdoor air sample.

With the exception of acrolein and naphthalene, constituent concentrations in subslab soil gas were below the lowest U.S. Environmental Protection Agency (EPA) industrial and/or New Jersey Department of Environmental Protection (NJDEP) nonresidential shallow soil gas screening levels (SGSLs). The presence of acrolein in subslab soil gas is likely an artifact of confounding sources. Naphthalene concentrations detected at the three subslab soil gas sampling locations were between the SGSLs based on  $10^{-5}$  and  $10^{-4}$  target cancer-risk levels and below SGSLs based on a noncancer hazard quotient of 1. However, the SGSLs were calculated using the generic default shallow-soil-gas-to-indoor-air attenuation factor (AF) of 0.1 which is likely more conservative than the empirical AF. Naphthalene would likely not exceed the  $10^{-5}$  target cancer risk level IASL based on a site-specific AF.

The results from the March 2009 vapor intrusion sampling event at the 103 River Road building indicate that a potential vapor intrusion pathway is not likely to cause, as defined by the current regulatory framework, unacceptable concentrations of site-related constituents in indoor air under current site conditions. However, further investigation is warranted due to the lack of indoor air sampling data to confirm a site-specific attenuation factor and only one round of subslab gas sampling. Future changes in site conditions (e.g., land use, condition of the building) would require a reevaluation of the vapor intrusion (VI) pathway.

An additional vapor intrusion sampling event is recommended for the 2009–2010 heating season including subslab soil gas sampling at the three existing subslab soil gas probes and indoor air sampling at three locations to confirm that indoor concentrations are below the risk-based screening levels in indoor air or are not related to vapor intrusion. The need for

future vapor intrusion activities at the building will be determined on the basis of the results of the 2009–2010 heating season monitoring event and the remedy selected in the Record of Decision.

## 1 Introduction

This technical memorandum presents the results from the March 2009 sampling event conducted to evaluate the potential for vapor intrusion at the 103 River Road building (also known as the Medical Arts building), in Edgewater, New Jersey. The 103 River Road building sits on the Block 93 South property, southwest of the Quanta Resources property across River Road. The 103 River Road building was constructed in the early 1980s and is two-and-a-half stories occupying a footprint approximately 5,000 ft<sup>2</sup> (100 feet long by 50 feet wide). The building contains three separate office spaces: a medical office and a dental office on the first floor and a cardiologist office on the second floor. A detailed description of the building was provided in the work plan (CH2M HILL, 2009a).

Samples of subslab soil gas and outdoor air were collected at the 103 River Road building March 17 and 18, 2009 (see Section 2), as part of the vapor intrusion evaluation. Sampling was conducted according to the U.S. Environmental Protection Agency (EPA)–approved work plan (CH2M HILL 2009a).

Vapor intrusion sampling and analysis procedures were performed in accordance with the following guidance documents:

- EPA (2002) OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils
- NJDEP (2005) Vapor Intrusion Guidance
- Interstate Technology and Regulatory Council (ITRC, 2007) Vapor Intrusion Pathway: A Practical Guideline

The analytical data received from the laboratory was validated, and the subslab soil gas sample results were compared to EPA risk-based screening levels (see Table 2a) and NJDEP screening levels (see Table 2b). The observations made from these comparisons are presented in Section 4.

## 2 Sampling Methods

The March 2009 vapor intrusion monitoring event at the 103 River Road building consisted of installing subslab soil gas probes at three locations, collecting subslab soil gas samples from those probes, and collecting one outdoor air sample at the north side of the building.

During a site visit on March 5, 2009, NJDEP and EPA reviewed the proposed sampling locations. The proposed subslab soil gas probe location in the elevator room (Q3-VI-02) was moved to the south stairwell because there was a strong odor in the elevator room from either the freshly painted floor or the can of lubricant found in the room. The proposed subslab soil gas probe location in the reception area (Q3-VI-03) was moved to the utility room because the reception area is carpeted. The outdoor air location is located at the north

side of the building. (See Table 1a for the sample-location key.) Figure 1 shows the subslab soil gas and outdoor air sample locations.

On March 5, 2009, after the site visit, Delta Geophysics, Inc., of Catasauqua, Penn., performed a utility clearance of the proposed subslab soil gas probe locations using ground-penetrating radar. Subsurface utilities, rebar, and wire mesh in the vicinity of the proposed locations were identified and marked.

Weather information during the sampling collection period from 12 pm on March 17 to 1 pm on March 18 was obtained from the U.S. National Weather Service's Web site. The temperature ranged from 40 to 59°F. The barometric pressure ranged from 30.1 to 30.3 inches Hg. There was no precipitation.

Sampling activities were performed in accordance with the procedures set forth in the 2009 work plan (CH2M HILL, 2009), EPA-approved quality assurance project plan (QAPP) (CH2M HILL, 2005), and 2009 QAPP addendum (CH2M HILL, 2009). The SUMMA canisters were managed and shipped to the laboratory under chain-of-custody procedures (Attachment A). The subslab soil gas and outdoor air samples were analyzed for the full volatile organic compound (VOC) analyte list by EPA method TO-15.

## **2.1 Building Survey**

A building survey was conducted on March 5 and 18, 2009, in the medical office on the first floor. On March 5 an unmarked 55-gallon drum with an open bung hole containing an unknown volume of unidentified liquid was observed in the medical office utility room; neither the medical office staff nor the building owner knew what was inside the drum.

On March 18 the layout of the rooms in the medical office was sketched, and rough measurements of the rooms were taken. The locations of the newly installed subslab soil gas probes were measured and photographed. There were no potential indoor sources of VOCs identified in the rooms where the subslab soil gas probes were located with the exception of the unidentified 55-gallon drum. The sampling team did not investigate the other rooms of the medical office for potential indoor VOC sources. In the utility room the sampling team identified two holes in the slab each approximately 4 to 6 inches in diameter where metal pipe extends downward. There was standing water with an oily sheen approximately 2-3 feet below grade.

## **2.2 Subslab Soil Gas Sampling**

Three subslab soil gas probes consisting of stainless steel Swagelok® parts were installed flush with the building floor using an industrial hammer drill with concrete masonry drill bits. Q3-VI-02 was installed on March 16; Q3-VI-01 and Q3-VI-03 were installed on March 17. The foundation was approximately 6 inches thick at the three subslab probe locations. The probe holes were sealed at the floor surface with portland cement and checked for leaks using helium to ensure that ambient air was not introduced along with the subslab soil gas sample.

On March 18, 2009, the sampling team successfully collected subslab samples from all three of the installed probes—one in the medical office storage room (Q3-VI-01), one in the stairwell (Q3-VI-02), and one in the medical office utility room (Q3-VI-03) (Figure 1).

Subslab soil gas samples were collected at a flow rate of 200 mL/min (5-minute period) in 1-L SUMMA canisters equipped with critical orifices. The March 2009 subslab soil gas sampling log is provided in Table 1c.

### 2.3 Outdoor Air Sampling

The outdoor air sample was collected over a 24-hour period (March 17–18) synoptically with the subslab soil gas samples using a 6-L SUMMA canister equipped with flow controller. At the location on the north side of the building (Q3-OA-01) the SUMMA canister was chained to the fence approximately 5 feet above ground surface. The SUMMA canisters were checked after 20 hours to ensure flow controllers were working properly and the canister pressure did not reach zero. The March 2009 outdoor air-sampling log is provided in Table 1b.

Outdoor air samples were also collected at three neighboring properties in March 2009 by similar methods. Q1-OA-04 and Q1-OA-06 were chained to the fence approximately 5 feet above ground surface at the Quanta site. Q1-OA-07 was chained to a metal box at the ground surface at the ambulance building at 915 River Road. Q1-OA-04, Q1-OA-06, and Q1-OA-07 were collected synoptically with the indoor air and subslab soil gas samples collected at the 115 River Road Building March 21–22.

Q2-OA-01 was chained to the fence at approximately 5 feet above ground surface at the southeast corner of the 163 Old River Road building. Q2-OA-01 was collected March 16–17, synoptically with the indoor air and subslab soil gas samples collected at the 163 Old River Road building.

## 3 Analytical Results

Columbia Analytical Services (CAS), in Simi Valley, California, performed the analyses using EPA method TO-15. CAS is certified for TO-15 analyses by NJDEP (NJ Certification No. CA009).

Analytical results from the subslab soil gas and outdoor air samples are presented in Tables 2a, 2b, and 3.

A CH2M HILL chemist performed a data quality evaluation report (Attachment B). The QAPP amendment in the work plan describes the data quality evaluation procedures that address precision, accuracy, representativeness, completeness, and comparability parameters (CH2M HILL, 2006a). EPA (1999, 2002) individual method requirements and guidelines were used in this data quality evaluation. The data quality evaluation reports indicate that the project goals for data precision and accuracy, as measured by field and laboratory quality control (QC) indicators, have been met, and that analyte and method objectives for completeness were met.

## 4 Vapor Intrusion Evaluation

### 4.1 Data Comparison to EPA Risk-Based Screening Levels

The EPA indoor air screening levels (IASLs) for most of the constituents are based on the EPA (2009) Regional Screening Levels (RSLs) for air. The RSLs are derived assuming a  $10^{-6}$  target cancer risk level or a target noncancer hazard quotient of 1. The EPA IASLs for tetrachloroethene (PCE) and trichloroethene (TCE) are based on the New York State Department of Health (NYS DOH) air criteria for PCE (NYS DOH, 2003) and TCE (NYS DOH, 2006). Soil gas screening levels (SGSLs) were derived by applying the EPA OSWER Draft Vapor Intrusion Guidance (EPA, 2002) generic default soil gas-to-indoor air attenuation factor of 0.1 to the IASLs. For the carcinogenic constituents, the EPA risk management range of  $10^{-6}$  to  $10^{-4}$  was considered for this evaluation. Concentrations above this range (i.e., greater than  $10^{-4}$  cancer risk) generally require further action (remediation and/or mitigation of the VI pathway). Concentrations within the risk management range may require further action (further evaluation, additional sampling, etc) based on site conditions. For noncarcinogenic constituents, noncancer hazard quotients less than 1 were considered acceptable (i.e., no adverse health effects). Concentrations above a noncancer hazard quotient of 1 may require further action.

Because the 103 River Road building is currently used as a commercial establishment, the subslab soil gas analytical results were compared to EPA industrial screening levels. This comparison is provided in Table 2a.

CH2M HILL offers the following overall observations resulting from the comparison of the subslab soil gas analytical data to the EPA industrial SGSLs:

- With the exception of acrolein, concentrations of constituents in subslab soil gas were below industrial SGSLs based on a noncancer hazard quotient of 1. A comparison of subslab soil gas, indoor air and outdoor air sample results for acrolein for the March 2009 vapor intrusion monitoring events at two neighboring properties (115 River Road and 163 Old River Road) strongly suggests that concentrations of acrolein in indoor air are not due to vapor intrusion. Acrolein is a combustion byproduct present in cigarette smoke and automobile exhaust. EPA concurred with this conclusion in an e-mail dated April 27, 2009, stating that "the detected concentrations may likely be an artifact of ambient or confounding sources" (Ho, 2009).
- With the exception of naphthalene, concentrations of the constituents in subslab soil gas were below the SGSLs based on the  $10^{-5}$  target cancer-risk level. 1,2-Dibromo-3-chloropropane was undetected in the three subslab soil gas samples; however the reporting limits of 2.1 and 2.2  $\mu\text{g}/\text{m}^3$  exceeded the SGSLs based on the  $10^{-4}$  target cancer-risk level of  $2 \mu\text{g}/\text{m}^3$ . 1,2-Dibromo-3-chloropropane is not a site-related constituent and has not been detected in soil or groundwater samples collected within 100 feet of the 103 River Road building (see Section 4.4).
- Naphthalene concentrations were between the SGSLs based on the  $10^{-5}$  and  $10^{-4}$  target cancer-risk levels of 36 and  $360 \mu\text{g}/\text{m}^3$  at the three sample locations with detections of 39, 92 and  $120 \mu\text{g}/\text{m}^3$ . The naphthalene concentrations at the three subslab soil gas probes were less than the noncancer hazard quotient of 1 SGSL of  $130 \mu\text{g}/\text{m}^3$ .

- Several constituents were undetected in the three subslab soil gas samples; however the reporting limits exceeded the SGSLs based on the  $10^{-6}$  target cancer-risk levels. These constituents were 1,1,2,2-tetrachloroethane, 1,2-dibromo-3-chloropropane, 1,2-dibromomethane, acrylonitrile and TCE. These constituents, except TCE, are not site-related and were not detected in soil or GW samples collected within 100 feet of the building. The reporting limits for TCE, 2.1 and  $2.2 \mu\text{g}/\text{m}^3$ , were less than the SGSLs based on the  $10^{-5}$  target cancer-risk level of  $5 \mu\text{g}/\text{m}^3$ .

For information purposes only, the subslab soil gas analytical data for PCE was also compared against a non-cancer-based screening level. This comparison was not provided in Table 2a. For PCE the EPA (2009) RSL for a noncancer hazard quotient of 1 is  $1,200 \mu\text{g}/\text{m}^3$  for industrial air which is more than 1,000-times greater than the NYS DOH air criterion for PCE (NYS DOH, 2003) of  $1 \mu\text{g}/\text{m}^3$ . None of the subslab soil gas PCE detections exceeded the more conservative cancer-based SGSL for PCE ( $10 \mu\text{g}/\text{m}^3$ ) and therefore PCE detections in subslab soil gas were well below the SGSL based on a noncancer hazard quotient of 1 ( $120 \mu\text{g}/\text{m}^3$ ).

For information purposes only, the subslab soil gas analytical data for TCE was also compared against non-cancer-based screening levels. This comparison was not provided in Tables 2a. An EPA (2009) RSL based on noncancer inhalation toxicity is not available. EPA is currently completing a toxicity assessment for TCE. For TCE two noncancer screening values were considered; the NYS DOH noncarcinogenic air criterion of  $10 \mu\text{g}/\text{m}^3$  (NYS DOH, 2006) and the California Environmental Protection Agency (Cal EPA) inhalation reference exposure level of  $600 \mu\text{g}/\text{m}^3$  (Cal EPA, 2000). TCE detections in the three subslab soil gas samples were below the SGSLs ( $100$  or  $6,000 \mu\text{g}/\text{m}^3$ ) that would be generated by applying a subslab soil gas-to-indoor air attenuation factor of 0.1.

For informational purposes only, the subslab soil gas analytical results were compared to the EPA residential SGSLs. This comparison is provided in Attachment C-1a.

## 4.2 Data Comparison to NJDEP Screening Levels

The NJDEP subslab soil gas screening levels were obtained from Table 1 of NJDEP (2005) vapor intrusion guidance. Because the 103 River Road building is currently used as a commercial establishment, the subslab soil gas analytical results were compared to NJDEP nonresidential screening levels. This comparison is provided in Table 2b.

With the exception of acrolein and naphthalene, concentrations of constituents in subslab soil gas were below the NJDEP nonresidential SGSLs. As discussed in Section 4.1 the presence of acrolein in subslab soil gas is likely an artifact of confounding sources. Naphthalene concentrations exceeded the NJDEP nonresidential SGSL of  $6 \mu\text{g}/\text{m}^3$  at the three sample locations with detections of 39, 92, and  $120 \mu\text{g}/\text{m}^3$ .

For informational purposes only, the subslab soil gas analytical results were compared to residential SGSLs. This comparison is provided in Attachment C-1b.

## 4.3 Evaluation of Aerobic Biodegradation Potential in Subslab Soil Gas

Petroleum hydrocarbons readily degrade to carbon dioxide in the presence of oxygen by microbes in soil within the vadose zone. Field measurements for oxygen and carbon dioxide

were performed with a GEM2000 landfill gas meter to evaluate the potential for aerobic biodegradation in the subsurface vadose zone. These measurements are provided in Table 1c. The concentrations of oxygen ranged from 20 to 18.1 percent. This indicates that there is an ample amount of oxygen available for aerobic biodegradation in the subslab soil gas. The concentrations of carbon dioxide ranged from 0 to 0.2 percent, indicating that aerobic biodegradation is likely not occurring at significant rates because carbon dioxide is not present at elevated concentrations.

#### **4.4 Vapor Intrusion Conceptual Site Model**

The soil and groundwater data collected from within 100 feet of the 103 River Road building as part of the OU1 supplemental remedial investigation (SRI) were used to update the preliminary conceptual site model that was presented in the work plan (CH2M HILL, 2009). The OU1 SRI sampling locations are shown in Figure 2.

The lithology on the Block 93 South property consists of 15 feet of fill material underlain by 10 feet of peat and then an unknown thickness of silty clay. Groundwater is encountered at approximately 5 feet below the ground surface.

There are two monitoring wells located within 100 feet of the 103 River Road building: MW-123 to the northeast of the building and MW-124 to the west of the building (see Figure 2). Both monitoring wells are screened near the top of the water table: MW-123 is screened from 5 to 10 feet bgs, and MW-124 is screened from 6 to 11 feet bgs. The December 2008 groundwater VOC and SVOC sampling results from MW-123 and MW-124 are provided in Attachment D-1a and D-1b. Several VOCs were detected at MW-123: 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benzene, ethylbenzene, isopropylbenzene, n-propylbenzene, toluene, o-xylene, and m&p xylenes. These constituents were not detected at MW-124; however, several other VOC constituents were: 1,1-dichloroethene, 1,1-dichloroethane, cis-1,2-dichloroethene, tetrachloroethene, and trichloroethene. PAHs were also detected at MW-124, most notably naphthalene, at 10,500 µg/L. Several other non-PAH SVOCs were detected at MW-124. Naphthalene was the only SVOC detected at MW-123; the concentration (0.724 µg/L) was considerably less than the detection at MW-124.

Soil samples were collected from 12 locations within 100 feet of the 103 River Road building in August, September, and October 2008 (see Figure 2). The 2008 soil VOC and SVOC sampling results are provided in Attachment D-2a and D-2b. Several VOCs were detected at one or more sampling location: 1,1-dichloroethane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, acetone, benzene, carbon disulfide, ethylbenzene, isopropylbenzene, n-propylbenzene, toluene, vinyl chloride, and total xylenes. Elevated VOC concentrations were observed at TL10.5-10.5 (east of the 103 River Road building) at 14-15 feet bgs but not at the two shallower sample intervals at this location. Elevated VOC concentrations were also observed at TL12-10.75 (northeast of the 103 River Road building next to MW-123) at 13-15.5 feet bgs. Lower VOC concentrations were observed at the shallower interval at this location. Slightly elevated VOC concentrations were observed at SB-42 (north of the 103 River Road building) at 8.5-10 feet bgs. VOCs were not detected at the shallower sample interval at this location. Overall, VOC detections occurred primarily north and east of the 103 River Road building and primarily in the deeper sample intervals (i.e., below 8 feet bgs). PAHs were detected at all of the 12 sampling locations. Significant PAH concentrations were observed at TL-10.5-10.5 at 14-15 feet bgs and at TL12-10.75 at 13-15.5 feet bgs;

naphthalene concentrations in these two samples were 5,080 and 5,360 mg/kg, respectively. Several non-PAH SVOCs were detected in soil samples at the 12 locations: 2,4-dimethylphenol, biphenyl, bis(2-ethylhexyl)phthalate, carbazole, and dibenzofuran.

The TarGOST® investigation performed as part of the OU1 SRI indicates that NAPL zone NZ-4 may extend underneath the 103 River Road building (see Figure 3). NZ-4 is a deep NAPL zone that is at least 10 feet below ground surface. There is uncertainty about where the boundary of NZ-4 actually is under the building because TarGOST borings were not advanced within the building.

The pattern of naphthalene concentrations in soil and groundwater are consistent with the pattern of naphthalene concentrations in subslab soil gas; higher concentrations are present in all media to the northeast.

## 5 Conclusions

The results from the March 2009 vapor intrusion sampling event indicate that a potential vapor intrusion pathway is not likely to cause, as defined by the current regulatory framework, unacceptable concentrations of constituents in indoor air under the current site conditions at the 103 River Road building. Future changes in site conditions (e.g., land use, condition of the building) would require a reevaluation of the VI pathway.

Two constituents were detected at concentrations above the lowest EPA industrial and/or NJDEP nonresidential SGSLs in subslab soil gas; acrolein and naphthalene. The presence of acrolein in subslab soil gas is likely an artifact of confounding sources. Naphthalene concentrations detected at the three subslab soil gas sampling locations were between SGSLs based on the EPA  $10^{-5}$  and  $10^{-4}$  target cancer-risk levels and below the noncancer hazard quotient of 1.

The EPA SGSLs were calculated using the generic default EPA (2002) shallow-soil-gas-to-indoor-air attenuation factor (AF) of 0.1, which is likely more conservative than the empirical AF. The 103 River Road building was constructed in the early 1980s and the slab is in good condition with no visible cracks. According to Cal EPA (2004) guidance, the shallow-soil-gas-to-indoor-air AF for an existing commercial slab-on-grade building is 0.001. NJDEP (2005) guidance uses a shallow-soil-gas-to-indoor-air AF of 0.02. If the AF of 0.02 were used to calculate the EPA SGSLs, the naphthalene detections in two of the three subslab soil gas probes would be between the SGSLs based on the  $10^{-6}$  and  $10^{-5}$  target cancer-risk levels, and the naphthalene detection at the third probe would be below the  $10^{-6}$  target cancer-risk level. If a shallow-soil-gas-to-indoor-air AF of 0.001 were used to calculate the EPA SGSLs, the naphthalene detections in the three subslab soil gas probes would be below the  $10^{-6}$  target cancer-risk level. However, even using the conservative shallow-soil-gas-to-indoor-air AF of 0.1, the naphthalene concentrations detected at the three subslab soil gas sampling locations were below the EPA  $10^{-4}$  and target cancer-risk levels and the noncancer hazard quotient of 1.

Based on this evaluation, the results from the March 2009 vapor intrusion sampling event at the 103 River Road building indicate that a potential vapor intrusion pathway is not likely to cause unacceptable concentrations of constituents in indoor air under the current site conditions. However, further investigation is warranted due to the lack of indoor air

sampling data to confirm a site-specific attenuation factor and only one round of subslab gas sampling.

## 6 Recommendations for Further Action

An additional monitoring event is proposed for the 2009–2010 heating season at the 103 River Road building. This additional monitoring will verify that indoor air concentrations of vapor intrusion constituents of interest (COIs) remain below acceptable risk levels. The monitoring event will include the following activities:

- Subslab soil gas sample collection at the same three March 2009 subslab soil gas sample locations (Q3-VI-01, Q3-VI-02, and Q3-VI-03)
- Indoor air sample collection at three indoor air sample locations
- Outdoor air sample collection at the same March 2009 outdoor air location (Q3-OA-01)

A revised analyte list is proposed for the winter (heating season) 2009–2010 vapor intrusion sampling event. COIs recommended for further monitoring are those recommended for further monitoring at either the 163 Old River Road building or the 115 River Road building. Using the COIs from these two neighboring properties is recommended because vapor intrusion evaluations have been ongoing for several years at these properties. These COIs are 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,4-dichlorobenzene, benzene, bromodichloromethane, chlorodibromomethane, carbon tetrachloride, chloroform, ethylbenzene, naphthalene, n-propylbenzene, PCE, TCE, and total xylenes. Acrolein is not recommended for further monitoring because the March 2008 and 2009 sampling results at 163 Old River Road and 115 River Road indicate that its presence in indoor air, outdoor air, and subslab soil gas is likely an artifact of ambient or confounding sources.

The need for additional vapor intrusion activities at the 103 River Road building will be evaluated on the basis of the results of 2009–2010 heating season monitoring event and the final remedy set forth in the Quanta Site Record of Decision.

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**Tables**

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**TABLE 1a**

Sample Locations - Winter 2008 - 2009

*103 River Road Building*

*Edgewater, New Jersey*

**Subslab Sample Locations**

Location ID	Sample Location Description
Q3-VI-01	Medical office storage room
Q3-VI-02	South stairwell
Q3-VI-03	Medical office utility room

**Outdoor Air Sample Locations**

Location ID	Sample Location Description
Q3-OA-01	North side of 103 River Road building

**Additional Outdoor Air Sample Locations at Neighboring Properties**

Location ID	Sample Location Description
Q1-OA-04	North Site - chain to fence near end of ramp
Q1-OA-06	NE Site Corner - chain to fence near bulkhead
Q1-OA-07	Ambulance Building - 915 River Road - chain to orange box foot
Q2-OA-01	South side of 163 Old River Road Building - chained to fence

**TABLE 1b**

Outdoor Air Sampling Log - March 2009  
103 River Road Building  
Edgewater, New Jersey

Field ID	Location Description	Canister ID	Flow Controller ID	Pressure Gauge ID	Initial Canister Pressure ("Hg)	Start Date	Start Time	End Date	20 Hour Check Time	20 Hour Pressure ("Hg)	End Time	Final Pressure ("Hg)	Flow Controller Rate (ml/min)	Temp °F
Q3-OA-01-031809	North side of bldg chained to fence	AC00620	F00616	AVG00918	-30	3/17/2009	12:53	3/18/2009	9:55	-6.5	12:35	-4	24 Hour Period	49

TABLE 1c  
 Subslab Soil Gas Sampling Log - March 2009  
*103 River Road Building*  
*Edgewater, New Jersey*

Field ID	Location Description	Canister ID	Flow Controller ID	Pressure Gauge ID	Date	Total VOCs in Probe (ppm)	Purge Start Time	Purge End Time	Purge Rate (mL/min)	Helium Leak Check (ppm)	Total VOCs (ppm)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	Sample Start Time	Initial Pressure ("Hg)	Sample Finish Time	Final Pressure ("Hg)	Temp (oF)
Q3-VI-01-031809	Medical office storage room	1SC00026	OA00719	AVG00379	03/18/09	0.0	10:17	10:32	200	125	2.1	18.1	0.2	10:38	-29.5	10:45	-2.5	65
Q3-VI-02-031809	South stairwell	1SC00036	OA00049	AVG00240	03/18/09	0.0	12:32	12:45	200	0	0	20	0.1	12:45	-29	12:53	-2	63
Q3-VI-03-031809	Medical office utility room	1SC00560	OA01092	AVG00795	03/18/09	0.0	11:02	11:13	200	3700	2.1	19.1	0	11:33	-29	11:42	-2	67

TABLE 2a  
Analytical Results Against USEPA Industrial Subslab Soil Gas Risk-Based Screening Levels  
103 River Road Building  
Edgewater, New Jersey

Cas #	Parameter Name	Location			Q3-VI-01		Q3-VI-02		Q3-VI-03	
		Location Description		Medical office storage room	South stairwell		Medical office utility room			
		Field Sample ID		Q3-VI-01-031809	Q3-VI-02-031809		Q3-VI-03-031809			
		Sample Date		3/18/2009	3/18/2009		3/18/2009			
		Units		µg/m³	µg/m³		µg/m³			
USEPA Industrial SGSLs										
10-6	10-4	HQ=1								
Target Risk (µg/m³)	Target Risk (µg/m³)	Target Risk (µg/m³)								
71-55-6	1,1,1-TRICHLOROETHANE	NA	NA	2.2E+05	2.20E+00	U	2.10E+00	U	2.10E+00	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	2.1E+00	2.10E+02	NA	2.20E+00	U	2.10E+00	U	2.10E+00	U
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	NA	NA	1.3E+06	2.20E+00	U	6.50E-01	J	2.10E+00	U
79-00-5	1,1,2-TRICHLOROETHANE	7.7E+00	7.70E+02	NA	2.20E+00	U	2.10E+00	U	2.10E+00	U
75-34-3	1,1-DICHLOROETHANE	7.7E+01	7.70E+03	NA	2.20E+00	U	2.10E+00	U	2.10E+00	U
75-35-4	1,1-DICHLOROETHENE	NA	NA	8.8E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U
120-82-1	1,2,4-TRICHLOROBENZENE	NA	NA	1.8E+02	2.20E+00	U	2.10E+00	U	2.10E+00	U
95-63-6	1,2,4-TRIMETHYLBENZENE	NA	NA	3.1E+02	3.50E+00		2.60E+00		2.70E+00	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	2.0E-02	2.00E+00	8.8E+00	2.20E+00	U	2.10E+00	U	2.10E+00	U
106-93-4	1,2-DIBROMOMETHANE (EDB)	2.0E-01	2.00E+01	3.9E+02	2.20E+00	U	2.10E+00	U	2.10E+00	U
95-50-1	1,2-DICHLOROBENZENE	NA	NA	8.8E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U
107-06-2	1,2-DICHLOROETHANE	4.7E+00	4.70E+02	1.1E+05	2.20E+00	U	2.10E+00	U	2.10E+00	U
156-59-2	1,2-DICHLOROETHENE, cis-	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U
156-60-5	1,2-DICHLOROETHENE, trans-	NA	NA	2.6E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U
78-87-5	1,2-DICHLOROPROPANE	1.2E+01	1.20E+03	1.8E+02	2.20E+00	U	2.10E+00	U	2.10E+00	U
76-14-2	1,2-DICHLOROTETRAFLUOROETHANE	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U
108-67-8	1,3,5-TRIMETHYLBENZENE	NA	NA	2.6E+02	1.00E+00	J	8.60E-01	J	8.80E-01	J
106-99-0	1,3-BUTADIENE	4.1E+00	4.10E+02	8.8E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U
541-73-1	1,3-DICHLOROBENZENE	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U
10061-01-5	1,3-DICHLOROPROPENE, cis-	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U
10061-02-6	1,3-DICHLOROPROPENE, trans-	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U
106-46-7	1,4-DICHLOROBENZENE	1.1E+01	1.1E+03	3.5E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U
123-91-1	1,4-DIOXANE	1.60E+01	1.60E+03	1.6E+05	2.20E+00	U	2.10E+00	U	2.10E+00	U
622-96-8	1-ETHYL-4-METHYL-BENZENE	—	—	—	1.00E+00	J	9.30E-01	J	7.40E-01	J
78-93-3	2-BUTANONE (MEK)	NA	NA	2.2E+05	3.20E+00		9.20E+00		3.70E+00	
591-78-6	2-HEXANONE	—	—	—	9.10E-01	J	1.80E+00	J	1.80E+00	J
67-63-0	2-PROPANOL	3.10E+05	3.10E+07	—	1.90E+01		7.40E+00		1.40E+01	
141-78-6	ACETIC ACID, ETHYL ESTER	—	—	—	7.30E+00		6.20E+00		5.50E+00	
67-64-1	ACETONE	NA	NA	1.4E+06	2.00E+01	J	3.30E+01		2.90E+01	
75-05-8	ACETONITRILE	NA	NA	2.6E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U
107-02-8	ACROLEIN	NA	NA	8.8E-01	3.00E+00		2.20E+00		1.70E+00	J

TABLE 2a  
Analytical Results Against USEPA Industrial Subslab Soil Gas Risk-Based Screening Levels  
103 River Road Building  
Edgewater, New Jersey

Cas #	Parameter Name	Location			Q3-VI-01		Q3-VI-02		Q3-VI-03	
		Location Description			Medical office storage room	South stairwell	Medical office utility room			
		Field Sample ID			Q3-VI-01-031809	Q3-VI-02-031809	Q3-VI-03-031809			
		Sample Date			3/18/2009	3/18/2009	3/18/2009			
		Units			µg/m³	µg/m³	µg/m³			
USEPA Industrial SGSLs										
		10-6 Target Risk (µg/m³)	10-4 Target Risk (µg/m³)	HQ=1 Target Risk (µg/m³)						
107-13-1	ACRYLONITRILE	1.8E+00	1.80E+02	8.8E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U
107-05-1	ALLYL CHLORIDE	2.00E+01	2.00E+03	4.4E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U
80-56-8	alpha-PINENE	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U
71-43-2	BENZENE	1.6E+01	1.6E+03	1.3E+03	1.00E+00	J	7.70E-01	J	9.80E-01	J
100-44-7	BENZENE, (CHLOROMETHYL)-	2.50E+00	2.50E+02	4.4E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U
75-27-4	BROMODICHLOROMETHANE	3.30E+00	3.30E+02	NA	2.20E+00	U	2.10E+00	U	2.10E+00	U
75-25-2	BROMOFORM	1.1E+02	1.10E+04	NA	2.20E+00	U	2.10E+00	U	2.10E+00	U
74-83-9	BROMOMETHANE	NA	NA	2.2E+02	2.20E+00	U	2.10E+00	U	2.10E+00	U
75-15-0	CARBON DISULFIDE	NA	NA	3.1E+04	1.70E+00	U	1.20E+00	U	4.70E+00	
56-23-5	CARBON TETRACHLORIDE	8.2E+00	8.2E+02	8.3E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U
108-90-7	CHLOROBENZENE	NA	NA	2.2E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U
124-48-1	CHLORODIBROMOMETHANE	4.50E+00	4.50E+02	NA	2.20E+00	U	2.10E+00	U	2.10E+00	U
75-00-3	CHLOROETHANE	NA	NA	4.4E+05	2.20E+00	U	2.10E+00	U	2.10E+00	U
67-66-3	CHLOROFORM	5.3E+00	5.3E+02	4.3E+03	2.20E+00	U	4.90E+00		2.10E+00	
74-87-3	CHLOROMETHANE	NA	NA	3.9E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U
110-82-7	CYCLOHEXANE	NA	NA	2.6E+05	4.30E+00	U	4.20E+00	U	4.10E+00	U
75-71-8	DICHLORODIFLUOROMETHANE	NA	NA	8.8E+03	8.00E+01		6.40E+01		5.90E+01	
5989-27-5	D-LIMONENE	—	—	—	6.30E-01	J	2.10E+00	U	6.20E-01	J
64-17-5	ETHANOL	—	—	—	3.90E+01		2.40E+01		2.50E+01	
100-41-4	ETHYLBENZENE	4.9E+01	4.9E+03	4.4E+04	1.30E+00	J	1.90E+00	J	1.70E+00	J
87-68-3	HEXAChLOROBUTADIENE	5.6E+00	5.60E+02	NA	2.20E+00	U	2.10E+00	U	2.10E+00	U
98-82-8	ISOPROPYLBENZENE	NA	NA	1.8E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U
80-62-6	METHYL METHACRYLATE	NA	NA	3.1E+04	4.30E+00	U	4.20E+00	U	4.10E+00	U
1634-04-4	METHYL TERT-BUTYL ETHER (MTBE)	4.7E+02	4.70E+04	1.3E+05	2.20E+00	U	2.10E+00	U	2.10E+00	U
75-09-2	METHYLENE CHLORIDE	2.6E+02	2.60E+04	4.6E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U
108-10-1	METHYL ISOBUTYL KETONE (MIBK)	NA	NA	1.3E+05	2.20E+00	U	2.10E+00	U	1.00E+00	J
91-20-3	NAPHTHALENE	3.6E+00	3.6E+02	1.3E+02	1.20E+02		3.90E+01		9.20E+01	
123-86-4	N-BUTYL ACETATE	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U
142-82-5	N-HEPTANE	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U
110-54-3	N-HEXANE	NA	NA	3.1E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U
111-84-2	N-NONANE	—	—	—	5.70E-01	J	8.00E-01	J	2.10E+00	U
103-65-1	N-PROPYLBENZENE	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U

TABLE 2a  
Analytical Results Against USEPA Industrial Subslab Soil Gas Risk-Based Screening Levels  
103 River Road Building  
Edgewater, New Jersey

Cas #	Parameter Name	Location			Q3-VI-01		Q3-VI-02		Q3-VI-03	
		Location Description			Medical office storage room	South stairwell	Medical office utility room			
		Field Sample ID			Q3-VI-01-031809	Q3-VI-02-031809	Q3-VI-03-031809			
		Sample Date			3/18/2009	3/18/2009	3/18/2009			
		Units			µg/m³	µg/m³	µg/m³			
USEPA Industrial SGSLs										
		10-6 Target Risk (µg/m³)	10-4 Target Risk (µg/m³)	HQ=1 Target Risk (µg/m³)						
111-65-9	OCTANE	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U
115-07-1	PROPYLENE	—	—	—	4.20E+00		1.70E+00	J	3.40E+00	
100-42-5	STYRENE	NA	NA	4.4E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U
127-18-4	TETRACHLOROETHENE <sup>1</sup>	1.0E+01	1.0E+03	NA	2.20E+00	U	2.10E+00	U	2.10E+00	U
109-99-9	TETRAHYDROFURAN	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U
108-88-3	TOLUENE	NA	NA	2.2E+05	3.60E+00		3.30E+00		3.60E+00	
79-01-6	TRICHLOROETHENE <sup>1</sup>	5.0E-01	5.0E+01	NA	2.20E+00	U	2.10E+00	U	2.10E+00	U
75-69-4	TRICHLOROFLUOROMETHANE	NA	NA	3.1E+04	1.80E+00	J	1.80E+00	J	1.80E+00	J
108-05-4	VINYL ACETONE	NA	NA	8.8E+03	5.00E+00	J	1.60E+01	J	9.80E+00	J
75-01-4	VINYL CHLORIDE	2.8E+01	2.80E+03	4.4E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U
95-47-6	XYLENE, o-	NA	NA	3.1E+04	1.60E+00	J	1.80E+00	J	1.70E+00	J
XYLEMES1314	XYLENES, M & P <sup>2</sup>	—	—	—	3.40E+00	J	3.50E+00	J	3.30E+00	J
1330-20-7	XYLENES, Total - sum of isomers	NA	NA	4.4E+03	5.00E+00	J	5.30E+00	J	5.00E+00	J

Notes:

- 6.30E-01** Bold indicates an exceedance of the 10-6 target risk SGSL.
- Outline** Outlined indicates an exceedance of the 10-4 target risk SGSL.
- Shade** Shaded indicates an exceedance of the HQ=1 target risk SGSL.

The SGSLs are based on the USEPA 2009 Regional Screening Levels (April 2009) for Residential and Industrial Air.

The SGSLs were derived from the EPA 2008 RSLs by applying the EPA Vapor Intrusion Guidance (Nov 2002) default attenuation factor of 0.1.

SGSL = Soil Gas Screening Level

— = USEPA SGSL not available

NA = Not applicable

U = Below laboratory reporting limits

J = Data below calibration curve for that constituent, quantity estimated.

<sup>1</sup> = USEPA Region II utilizes the New York State Department of Health Air Criterion for PCE and TCE.

<sup>2</sup> = m&p-xylene were added to o-xylene and compared to the screening levels for total xylenes.

TABLE 2b

Analytical Results Against NJDEP Non-Residential Subslab Soil Gas Screening Levels  
 103 River Road Building  
 Edgewater, New Jersey

Cas #	Parameter Name	NJDEP Nonresidential SGSL ( $\mu\text{g}/\text{m}^3$ )	Location		Q3-VI-01		Q3-VI-02		Q3-VI-03	
			Location Description		Medical office storage room		South stairwell		Medical office utility room	
			Field Sample ID		Q3-VI-01-031809		Q3-VI-02-031809		Q3-VI-03-031809	
			Sample Date		3/18/2009		3/18/2009		3/18/2009	
			Units		$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$	
71-55-6	1,1,1-TRICHLOROETHANE	7.20E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
79-34-5	1,1,2,2-TETRACHLOROETHANE <sup>2</sup>	3.40E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	2.20E+06	2.20E+00	U	6.50E-01	J	2.10E+00	U	2.10E+00	U
79-00-5	1,1,2-TRICHLOROETHANE <sup>2</sup>	2.70E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
75-34-3	1,1-DICHLOROETHANE	3.60E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
75-35-4	1,1-DICHLOROETHENE	1.50E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
120-82-1	1,2,4-TRICHLOROBENZENE	2.60E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
95-63-6	1,2,4-TRIMETHYLBENZENE <sup>1</sup>	5.10E+02	3.50E+00		2.60E+00		2.70E+00			
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
106-93-4	1,2-DIBROMOMETHANE (EDB) <sup>2</sup>	3.80E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
95-50-1	1,2-DICHLOROBENZENE	1.00E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
107-06-2	1,2-DICHLOROETHANE <sup>2</sup>	2.00E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
156-59-2	CIS-1,2-DICHLOROETHENE	2.60E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
156-60-5	TRANS-1,2-DICHLOROETHENE	5.10E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
78-87-5	1,2-DICHLOROPROPANE <sup>2</sup>	2.30E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
76-14-2	1,2-DICHLOROTETRAFLUOROETHANE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
108-67-8	1,3,5-TRIMETHYLBENZENE <sup>1</sup>	4.30E+02	1.00E+00	J	8.60E-01	J	8.80E-01	J		
106-99-0	1,3-BUTADIENE <sup>2</sup>	1.10E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
541-73-1	1,3-DICHLOROBENZENE	7.70E+02	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
10061-01-5	CIS-1,3-DICHLOROPROPENE <sup>4</sup>	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE <sup>4</sup>	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
542-75-6	1,3-DICHLOROPROPENE, Total (Sum of Isomers)	7.20E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
106-46-7	1,4-DICHLOROBENZENE <sup>2</sup>	3.20E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
123-91-1	1,4-DIOXANE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
622-96-8	1-ETHYL-4-METHYL-BENZENE	—	1.00E+00	J	9.30E-01	J	7.40E-01	J		
78-93-3	2-BUTANONE (MEK)	3.60E+05	3.20E+00		9.20E+00				3.70E+00	
591-78-6	2-HEXANONE	—	9.10E-01	J	1.80E+00	J	1.80E+00	J	1.80E+00	J
67-63-0	2-PROPANOL	—	1.90E+01		7.40E+00				1.40E+01	
141-78-6	ACETIC ACID, ETHYL ESTER	—	7.30E+00		6.20E+00				5.50E+00	
67-64-1	ACETONE	2.30E+05	2.00E+01	J	3.30E+01				2.90E+01	
75-05-8	ACETONITRILE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
107-02-8	ACROLEIN	1.00E+00	3.00E+00		2.20E+00				1.70E+00	J
107-13-1	ACRYLONITRILE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
107-05-1	ALLYL CHLORIDE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
80-56-8	alpha-PINENE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
71-43-2	BENZENE <sup>2</sup>	2.60E+01	1.00E+00	J	7.70E-01	J	9.80E-01	J		
100-44-7	BENZENE, (CHLOROMETHYL)-	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
75-27-4	BROMODICHLOROMETHANE <sup>2</sup>	3.40E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
75-25-2	BROMOFORM	1.80E+02	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
74-83-9	BROMOMETHANE	3.60E+02	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
75-15-0	CARBON DISULFIDE	5.10E+04	1.70E+00	U	1.20E+00	U	4.70E+00			
56-23-5	CARBON TETRACHLORIDE <sup>2</sup>	3.10E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
108-90-7	CHLOROBENZENE	3.60E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
124-48-1	CHLORODIBROMOMETHANE <sup>2</sup>	4.30E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
75-00-3	CHLOROETHANE	2.50E+02	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
67-66-3	CHLOROFORM	2.40E+01	2.20E+00	U	4.90E+00				2.10E+00	U
74-87-3	CHLOROMETHANE	6.60E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U
110-82-7	CYCLOHEXANE	4.30E+05	4.30E+00	U	4.20E+00	U	4.20E+00	U	4.10E+00	U
75-71-8	DICHLORODIFLUOROMETHANE	1.30E+04	8.00E+01		6.40E+01				5.90E+01	
5989-27-5	D-LIMONENE	—	6.30E-01	J	2.10E+00	U	6.20E-01	J		
64-17-5	ETHANOL	—	3.90E+01		2.40E+01				2.50E+01	
100-41-4	ETHYLBENZENE	7.40E+04	1.30E+00	J	1.90E+00	J	1.70E+00	J		
87-68-3	HEXAChLOROBUTADIENE <sup>2</sup>	5.30E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U		
98-82-8	ISOPROPYLBENZENE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U		
80-62-6	METHYL METHACRYLATE	—	4.30E+00	U	4.20E+00	U	4.20E+00	U	4.10E+00	U
1634-04-4	METHYL TERT-BUTYL ETHER (MTBE)	1.80E+02	2.20E+00	U	2					

TABLE 2b

Analytical Results Against NJDEP Non-Residential Subslab Soil Gas Screening Levels  
 103 River Road Building  
 Edgewater, New Jersey

Location Description	Location	Q3-VI-01	Q3-VI-02		Q3-VI-03	
	Medical office storage room		South stairwell		Medical office utility room	
	Field Sample ID	Q3-VI-01-031809	Q3-VI-02-031809		Q3-VI-03-031809	
	Sample Date	3/18/2009	3/18/2009		3/18/2009	
Units	NJDEP Nonresidential SGSL ( $\mu\text{g}/\text{m}^3$ )		$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	
Cas #	Parameter Name					
95-47-6	O-XYLENE <sup>5</sup>	—	1.60E+00	J	1.80E+00	J
XYLENES1314	XYLENES, M & P <sup>5</sup>	—	3.40E+00	J	3.50E+00	J
1330-20-7	XYLENES, Total - sum of isomers	7.70E+03	5.00E+00	J	5.30E+00	J

## Notes:

**6.30E-01** Bold and shaded indicates an exceedance of the NJDEP Nonresidential SGSL.

NJDEP Generic SGSLs are from the NJDEP Vapor Intrusion Guidance Table 1 (March 2007)

NJDEP = New Jersey Department of Environmental Protection

SGSL = Soil Gas Screening Level

— = NJDEP SGSL not available

U = Below laboratory reporting limits

J = Data below calibration curve for that constituent, quantity estimated.

<sup>1</sup> = Screening levels were provided by NJDEP for these constituents because generic screening levels were not included in the NJDEP Vapor Intrusion Guidance.

<sup>2</sup> = The NJDEP SGSLs for these constituents defaults to the method analytical reporting limit because it is higher than the risk-based screening level.

<sup>3</sup> = NJDEP in conjunction with USEPA's National Center for Environmental Assessment determined that it is appropriate to use ethylbenzene as an analog for n-propylbenzene in the development of a screening value. This screening value is not defensible as the primary driver in making cleanup decisions since it is based on limited information.

<sup>4</sup> = cis-1,3-Dichloropropene and trans-1,3-dichloropropene will be added together and compared to the screening level for total 1,3-dichloropropene.

<sup>5</sup> = o-xylene and m&p-xylene will be added together and compared to the screening level for total xylenes.

TABLE 3

Outdoor Air Results  
 103 River Road Building  
 Edgewater, New Jersey

Cas #	Parameter Name	Location	Q3-OA-01
		Location Description	North side of 103 RR building
		Field Sample ID	Q3-OA-01-031809
		Sample Date	3/18/2009
		Units	µg/m <sup>3</sup>
71-55-6	1,1,1-TRICHLOROETHANE	7.50E-02	J
79-34-5	1,1,2,2-TETRACHLOROETHANE	1.30E-01	U
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	6.30E-01	
79-00-5	1,1,2-TRICHLOROETHANE	1.30E-01	U
75-34-3	1,1-DICHLOROETHANE	1.30E-01	U
75-35-4	1,1-DICHLOROETHENE	1.30E-01	U
120-82-1	1,2,4-TRICHLOROBENZENE	1.30E-01	U
95-63-6	1,2,4-TRIMETHYLBENZENE	5.90E-01	J
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	6.60E-01	U
106-93-4	1,2-DIBROMOMETHANE (EDB)	1.30E-01	U
95-50-1	1,2-DICHLOROBENZENE	1.30E-01	U
107-06-2	1,2-DICHLOROETHANE	1.30E-01	U
156-59-2	1,2-DICHLOROETHENE, cis-	1.30E-01	U
156-60-5	1,2-DICHLOROETHENE, trans-	1.30E-01	U
78-87-5	1,2-DICHLOROPROPANE	1.30E-01	U
76-14-2	1,2-DICHLOROTETRAFLUOROETHANE	1.30E-01	J
108-67-8	1,3,5-TRIMETHYLBENZENE	2.10E-01	J
106-99-0	1,3-BUTADIENE	2.50E-01	
541-73-1	1,3-DICHLOROBENZENE	1.30E-01	U
10061-01-5	1,3-DICHLOROPROPENE, cis-	6.60E-01	U
10061-02-6	1,3-DICHLOROPROPENE, trans-	6.60E-01	U
542-75-6	1,3-DICHLOROPROPENE, Total (Sum Of Isomers)	6.60E-01	U
106-46-7	1,4-DICHLOROBENZENE	4.70E+00	
123-91-1	1,4-DIOXANE	6.60E-01	U
622-96-8	1-ETHYL-4-METHYL-BENZENE	2.20E-01	J
78-93-3	2-BUTANONE (MEK)	1.40E+00	
591-78-6	2-HEXANONE	2.50E-01	J
67-63-0	2-PROPANOL	1.80E+00	
141-78-6	ACETIC ACID, ETHYL ESTER	9.50E-01	
67-64-1	ACETONE	8.10E+00	
75-05-8	ACETONITRILE	2.30E-01	J
107-02-8	ACROLEIN	6.80E-01	
107-13-1	ACRYLONITRILE	6.60E-01	U
107-05-1	ALLYL CHLORIDE	1.30E-01	U
80-56-8	alpha-PINENE	1.70E-01	J
71-43-2	BENZENE	1.30E+00	
100-44-7	BENZENE, (CHLOROMETHYL)-	1.30E-01	U
75-27-4	BROMODICHLOROMETHANE	1.30E-01	U
75-25-2	BROMOFORM	6.60E-01	U
74-83-9	BROMOMETHANE	1.30E-01	U
75-15-0	CARBON DISULFIDE	2.50E-01	U

**TABLE 3**  
 Outdoor Air Results  
*103 River Road Building*  
*Edgewater, New Jersey*

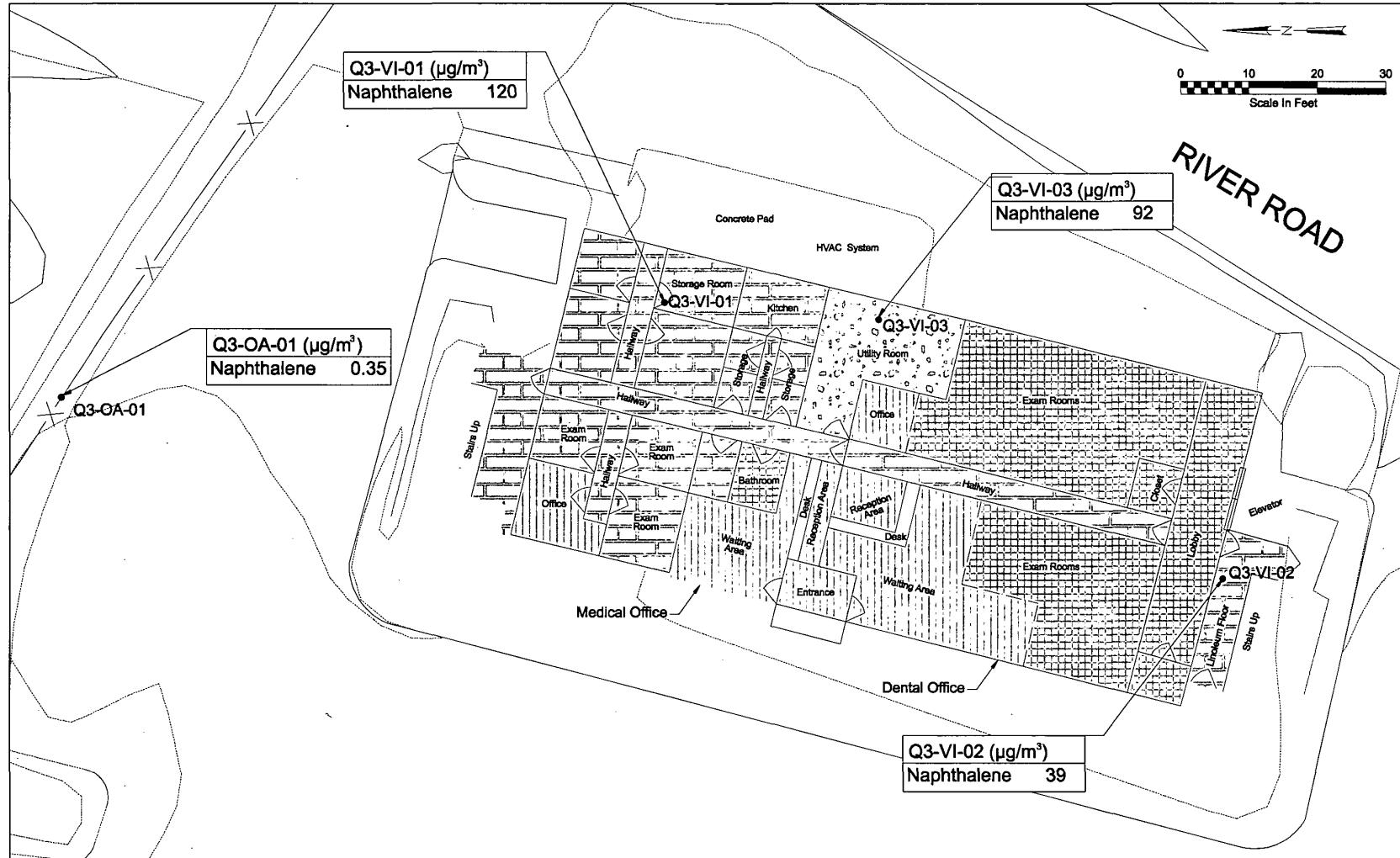
Cas #	Parameter Name	Location	Q3-OA-01
		Location Description	North side of 103 RR building
		Field Sample ID	Q3-OA-01-031809
		Sample Date	3/18/2009
		Units	µg/m <sup>3</sup>
56-23-5	CARBON TETRACHLORIDE	5.50E-01	
108-90-7	CHLOROBENZENE	1.30E-01	U
124-48-1	CHLORODIBROMOMETHANE	1.30E-01	U
75-00-3	CHLOROETHANE	1.30E-01	U
67-66-3	CHLOROFORM	1.50E-01	
74-87-3	CHLOROMETHANE	7.20E-01	
110-82-7	CYCLOHEXANE	6.60E-01	U
75-71-8	DICHLORODIFLUOROMETHANE	2.90E+00	
5989-27-5	D-LIMONENE	2.00E-01	J
64-17-5	ETHANOL	1.50E+01	
100-41-4	ETHYLBENZENE	5.20E-01	J
87-68-3	HEXACHLOROBUTADIENE	1.30E-01	U
98-82-8	ISOPROPYLBENZENE	7.70E-02	J
80-62-6	METHYL METHACRYLATE	6.60E-01	U
1634-04-4	METHYL TERT-BUTYL ETHER (MTBE)	1.30E-01	U
75-09-2	METHYLENE CHLORIDE	8.00E-01	
108-10-1	METHYL ISOBUTYL KETONE (MIBK)	1.40E-01	J
91-20-3	NAPHTHALENE	3.50E-01	
123-86-4	N-BUTYL ACETATE	3.60E-01	J
142-82-5	N-HEPTANE	6.10E-01	J
110-54-3	N-HEXANE	1.00E+00	
111-84-2	N-NONANE	4.20E-01	J
103-65-1	N-PROPYLBENZENE	1.50E-01	J
111-65-9	OCTANE	3.40E-01	J
115-07-1	PROPYLENE	2.00E+00	J
100-42-5	STYRENE	1.40E-01	J
127-18-4	TETRACHLOROETHENE	5.90E-01	
109-99-9	TETRAHYDROFURAN	6.60E-01	U
108-88-3	TOLUENE	3.60E+00	
79-01-6	TRICHLOROETHENE	3.10E-01	
75-69-4	TRICHLOROFLUOROMETHANE	1.70E+00	
108-05-4	VINYL ACETONE	7.40E-01	J
75-01-4	VINYL CHLORIDE	1.30E-01	U
95-47-6	XYLENE, o-	5.70E-01	J
XYLENES1314	XYLENES, M & P	1.60E+00	
1330-20-7	XYLENES, Total - sum of isomers	2.17E+00	

Notes:

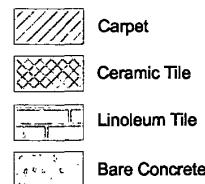
U = Below laboratory reporting limits

J = Data below calibration curve for that constituent, quantity estimated.

## Figures



Parameter Name	USEPA Industrial SGSLs			NJDEP Nonresidential SGSL ( $\mu\text{g}/\text{m}^3$ )
	10-6 Target Risk ( $\mu\text{g}/\text{m}^3$ )	10-4 Target Risk ( $\mu\text{g}/\text{m}^3$ )	HQ=1 Target Risk ( $\mu\text{g}/\text{m}^3$ )	
Naphthalene	4	360	130	6



\* Sample locations are approximate.

**\*\* Medical office room locations are close to scale. Dental office room locations are approximate.**

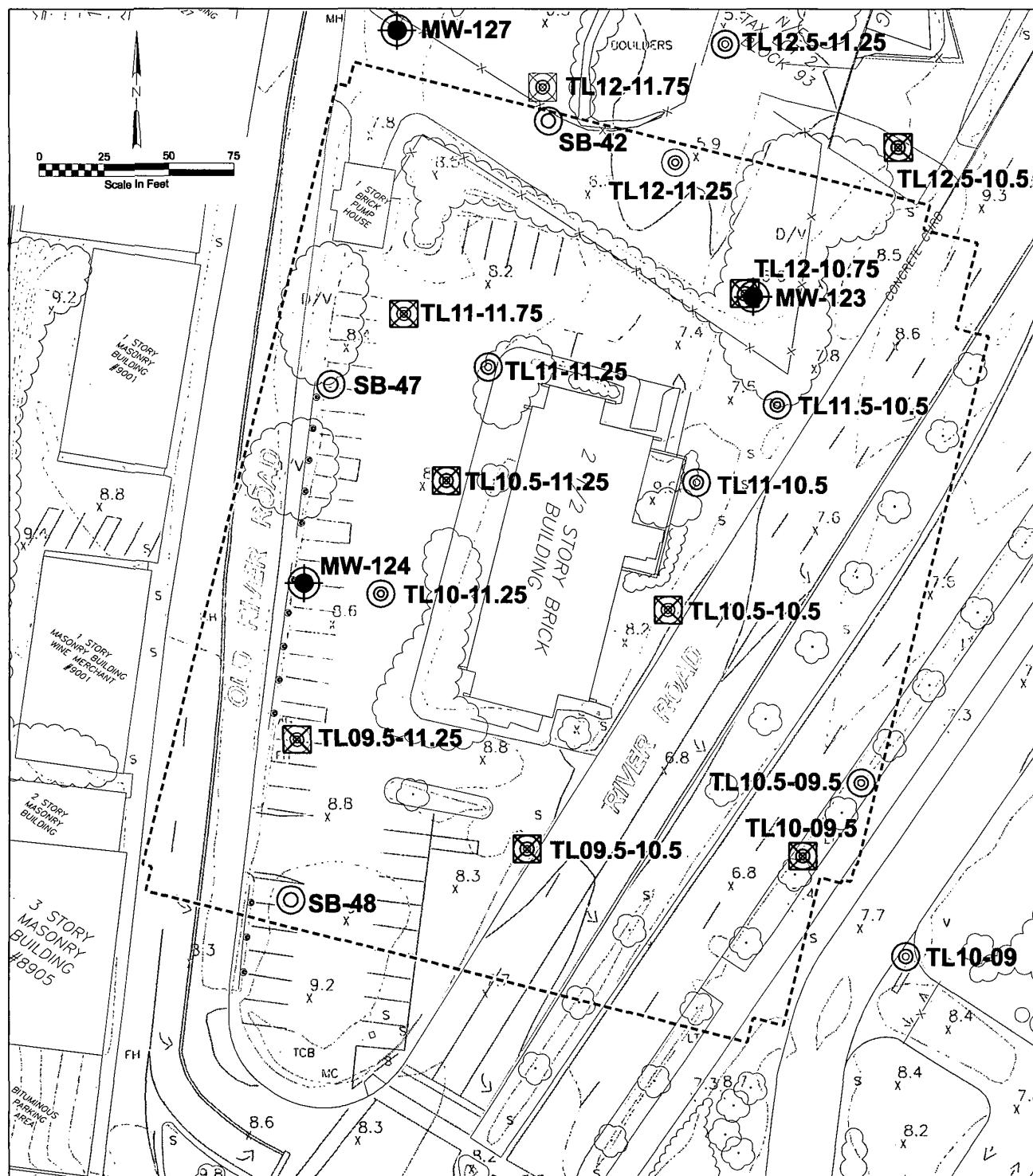
TutorialName\Well\Quanta\_32867AGIS & Graphics\CAD Files\Working Drawings\Vapor Intrusion\103\_PP\_2009.dwg

 **CH2MHILL**

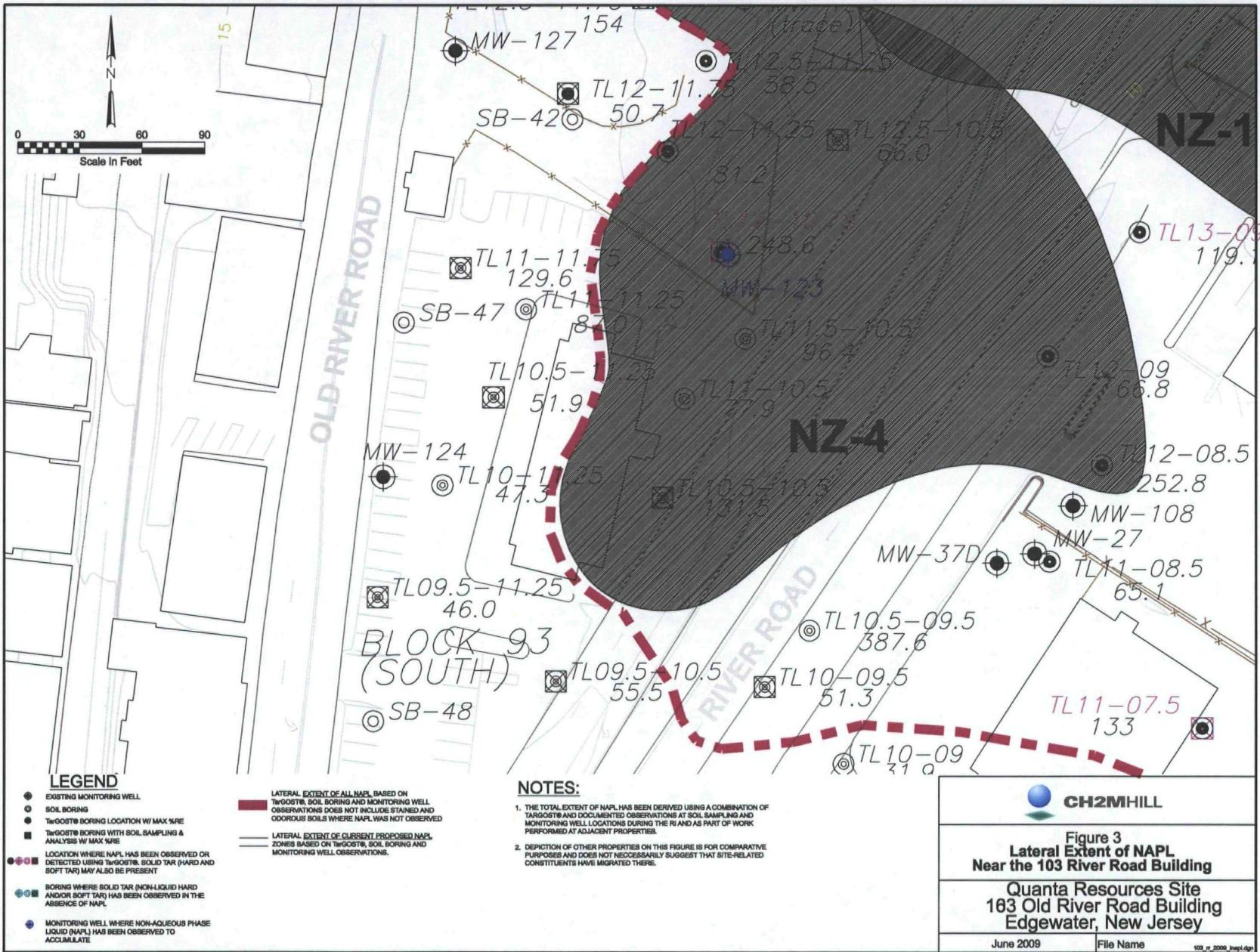
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Figure 1  
103 River Road Building  
Vapor Intrusion Evaluation  
March 2009 Sample Locations

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CH2MHILL	
Figure 2 Soil and Groundwater Sample Locations Within 100 Feet of the 103 Old River Road Building	
Quanta Resources Site 103 Old River Road Building Edgewater, New Jersey	
June 2009	File Name 103_rr_2008_100ft_offset.lgn



304514

**Attachment A**  
**Chain of Custody**

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## AIR - Chain of Custody Record &amp; Analytical Service Request

Page \_\_\_\_ of \_\_\_\_



2655 Park Center Drive, Suite A  
Simi Valley, California 93065  
Phone (805) 526-7161  
Fax (805) 526-7270

Requested Turnaround Time In Business Days (Surcharges) please circle  
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day - Standard

CAS Project No.  
*P0400976*

Company Name & Address (Reporting Information) <i>CH2M Hill 3011 SW Williston Road Gainesville FL 32608 Attn: Amy Klopper</i>		Project Name <i>Quanta Resources</i>		CAS Contact <i>Kate Aguilera</i>		<b>Comments</b> <small>e.g. Actual Preservative or specific Instructions</small>  <i>FP = Final Pressure</i>						
				Analysis Method and/or Analytes								
Project Manager <i>John Rendall</i>		P.O. # / Billing Information <i>CH2M Hill A/D PO Box 2411329 Denver CO 80224</i>										
Phone <i>352.335.5877</i>		Fax <i>352.2714870</i>										
Email Address for Result Reporting <i>amy.Klopper@ch2m.com</i>		Sampler (Print & Sign) <i>Leslie Baechler</i>										
Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Sample Type (Air/Tube/Solid)	Canister ID (Bar Code # - AC, SC, etc.)	Flow Controller (Bar Code - FC #)	Sample Volume	Notes				
Q3-VI-01-031809	(1)	3/18/09	1045	air	ASC00026	0A000719	1L	x				-2.5
Q3-VI-02-031809	(2)	3/18/09	1253	air	ASC00036	0A000049	1L	x				-2
Q3-VI-03-031809	(3)	3/18/09	1142	air	ASC00008	0A01092	1L	x				-2
Q3-0A-01-031809	(4)	3/18/09	1235	air	ACB00028	FC000016	6L	x				-4
Report Tier Levels - please select <i>Please Refer to SOW</i> Tier I - (Results/Default if not specified) _____ Tier III - (Data Validation Package) 10% Surcharge _____ Tier II - (Results + QC) _____ Tier V - (client specified) _____												
EDD required Yes / No Type: _____ EDD Units: _____												
Project Requirements (MRLs, QAPP)												
Relinquished by: (Signature) <i>J. M.</i>	Date: 3/18/09	Time: 1530	Received by: (Signature) <i>Ulf Alleen</i>	Date: <i>3/18/10</i>	Time: <i>1015</i>							
Relinquished by: (Signature) <i>On</i>	Date:	Time:	Received by: (Signature)	Date:	Time:	Cooler / Blank						
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Temperature _____ °C						

304516

**Attachment B**  
**Data Quality Evaluation Report**

# Honeywell Quanta

## 103 River Road Air Sampling

### Data Quality Evaluation Report

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#### Introduction

The objective of this Data Quality Evaluation (DQE) report is to assess the data quality of analytical results for the air samples collected at the Honeywell Quanta site in March, 2009. Individual method requirements and guidelines from the USEPA Contract Laboratory National Functional Guidelines for Organic Data Review, October 1999 were used in this assessment.

This report is intended as a general data quality assessment designed to summarize data issues.

#### Analytical Data

This DQE report covers four normal environmental samples. These sample results were reported as one sample delivery group, P0900976. Samples were analyzed for the method listed in **Table 1** below. The analyses were performed by Columbia Analytical Services, (CAS) located in Simi Valley, California.

**TABLE 1**  
Analytical Parameter, Method and Laboratory

Parameter	Method	Laboratory
Volatile Organic Compounds	TO-15	CAS

The assessment of data includes a review of: (1) the chain-of-custody (CoC) documentation; (2) holding-time compliance; (3) the required quality control (QC) samples at the specified frequencies; (4) flagging for method blanks; (5) laboratory control spiking samples; (6) surrogate spike recoveries for organic analyses; (7) analytical spike data; (8) calibration data, and other method-specific criteria.

Field samples were also reviewed to ascertain field compliance and data quality issues. This included a review of field duplicate samples.

The data flags used in this assessment are defined below:

- J = Analyte is present but the reported value may not be accurate or precise (estimated).
- R = The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria.

- U = Analyte was not detected at the specified detection limit.
- UJ = Analyte was not detected and the specified detection limit may not be accurate or precise (estimated).
- X = Result was excluded. The data are associated with re-runs and dilutions and are excluded because another useable result exists. (There can only be a single valid result per parameter per sample.)

## **Findings**

The overall summaries of the data validation findings are contained in the following sections below and summarized in **Table 2**.

The laboratory noted that sample detects for propylene may be biased high due to coelution with a non-target compound. All associated results were qualified as estimated, "J," due to this possible high bias.

### **Holding Times**

All holding-time criteria were met.

### **Method Blanks**

Method blanks were analyzed at the required frequency and were generally free of contamination. Acetone and carbon disulfide were detected in a laboratory method blank and the associated sample data were qualified as not detected, "U," when the samples results were within 10X (acetone, a common lab contaminant) or 5X (carbon disulfide) of the amount detected in the laboratory method blank.

### **Field Duplicates**

Field duplicates were not collected from this site for this event.

### **Surrogates**

All surrogates were recovered within laboratory established QC limits.

### **Laboratory Control Samples**

Laboratory control samples were analyzed as required and were recovered within laboratory established QC limits.

### **Calibration**

Initial and continuing calibrations were analyzed as required and were within laboratory established QC limits.

### **Chain of Custody**

Each sample was documented in a completed CoC. All sample container criteria were met.

## Overall Assessment

The goal of this assessment is to demonstrate that a sufficient number of representative samples were collected and the resulting analytical data can be used to support the decision-making process. The procedures for assessing the precision, accuracy, representativeness, completeness, and comparability parameters (PARCC) were based on the USEPA Contract Laboratory National Functional Guidelines for Organic Data Review, October 1999. The following summary highlights the PARCC findings for the above-defined events:

1. The completeness objectives were met for all method/analyte combinations.
2. Some data are qualified because of low-level blank contamination.
3. A few results were qualified as estimated concentrations.
4. The precision and accuracy of the data, as measured by field and laboratory QC indicators, suggest that the project goals have been met.

TABLE 2  
Validation Flags

Method	Native ID	Analyte	Final Result	Units	Final Validation Flag	Validation Reason
TO-15	Q3-OA-01-031809	Carbon Disulfide	0.25	µg/m <sup>3</sup>	U	LBL
TO-15	Q3-OA-01-031809	Propylene	2	µg/m <sup>3</sup>	J	COELUT
TO-15	Q3-VI-01-031809	Carbon Disulfide	1.7	µg/m <sup>3</sup>	U	LBL
TO-15	Q3-VI-02-031809	Carbon Disulfide	1.2	µg/m <sup>3</sup>	U	LBL

Notes:

LBL - Analyte detected in the associated laboratory method blank less than the reporting limit.

COELUT - Sample result may have a high bias due to coelution with non-target compound

**Attachment C**  
**Screening Level Comparison**

## ATTACHMENT C-1a

Subslab Soil Gas Analytical Data Compared to USEPA Residential Risk-Based Screening Levels  
 103 River Road Building  
 Edgewater, New Jersey

Cas #	Parameter Name	Location			Q3-VI-01		Q3-VI-02		Q3-VI-03											
		Location Description			Medical office storage room		South stairwell		Medical office utility room											
		Field Sample ID			Q3-VI-01-031809		Q3-VI-02-031809		Q3-VI-03-031809											
		Sample Date			3/18/2009		3/18/2009		3/18/2009											
Units																				
USEPA Residential SGSLs																				
Target Risk ( $\mu\text{g}/\text{m}^3$ )	Target Risk ( $\mu\text{g}/\text{m}^3$ )	Target Risk ( $\mu\text{g}/\text{m}^3$ )																		
71-55-6	1,1,1-TRICHLOROETHANE	NA	NA	5.2E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U										
79-34-5	1,1,2,2-TETRACHLOROETHANE	4.2E-01	4.20E+01	NA	2.20E+00	U a	2.10E+00	U a	2.10E+00	U a										
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	NA	NA	3.1E+05	2.20E+00	U	6.50E-01	J	2.10E+00	U										
79-00-5	1,1,2-TRICHLOROETHANE	1.5E+00	1.50E+02	NA	2.20E+00	U a	2.10E+00	U a	2.10E+00	U a										
75-34-3	1,1-DICHLOROETHANE	1.5E+01	1.50E+03	NA	2.20E+00	U	2.10E+00	U	2.10E+00	U										
75-35-4	1,1-DICHLOROETHENE	NA	NA	2.1E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U										
120-82-1	1,2,4-TRICHLOROBENZENE	NA	NA	4.2E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U										
95-63-6	1,2,4-TRIMETHYLBENZENE	NA	NA	7.3E+01	3.50E+00		2.60E+00		2.70E+00											
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	1.6E-03	1.60E-01	2.1E+00	2.20E+00	U abc	2.10E+00	U abc	2.10E+00	U abc										
106-93-4	1,2-DIBROMOMETHANE (EDB)	4.1E-02	4.10E+00	9.4E+01	2.20E+00	U a	2.10E+00	U a	2.10E+00	U a										
95-50-1	1,2-DICHLOROBENZENE	NA	NA	2.1E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U										
107-06-2	1,2-DICHLOROETHANE	9.4E-01	9.40E+01	2.5E+04	2.20E+00	U a	2.10E+00	U a	2.10E+00	U a										
156-59-2	1,2-DICHLOROETHENE, cis-	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U										
156-60-5	1,2-DICHLOROETHENE, trans-	NA	NA	6.3E+02	2.20E+00	U	2.10E+00	U	2.10E+00	U										
78-87-5	1,2-DICHLOROPROPANE	2.4E+00	2.40E+02	4.2E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U										
76-14-2	1,2-DICHLOROTETRAFLUOROETHANE	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U										
108-67-8	1,3,5-TRIMETHYLBENZENE	NA	NA	6.3E+01	1.00E+00	J	8.60E-01	J	8.80E-01	J										
106-99-0	1,3-BUTADIENE	8.1E-01	8.10E+01	2.1E+01	2.20E+00	U a	2.10E+00	U a	2.10E+00	U a										
541-73-1	1,3-DICHLOROBENZENE	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U										
10061-01-5	1,3-DICHLOROPROPENE, cis-	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U										
10061-02-6	1,3-DICHLOROPROPENE, trans-	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U										
106-46-7	1,4-DICHLOROBENZENE	2.2E+00	2.2E+02	8.3E+03	2.20E+00	U a	2.10E+00	U	2.10E+00	U										
123-91-1	1,4-DIOXANE	NA	NA	3.8E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U										
622-96-8	1-ETHYL-4-METHYL-BENZENE	—	—	—	1.00E+00	J	9.30E-01	J	7.40E-01	J										
78-93-3	2-BUTANONE (MEK)	NA	NA	5.2E+04	3.20E+00		9.20E+00		3.70E+00											
591-78-6	2-HEXANONE	—	—	—	9.10E-01	J	1.80E+00	J	1.80E+00	J										
67-63-0	2-PROPANOL	—	—	—	1.90E+01		7.40E+00		1.40E+01											
141-78-6	ACETIC ACID, ETHYL ESTER	—	—	—	7.30E+00		6.20E+00		5.50E+00											
67-64-1	ACETONE	NA	NA	3.2E+05	2.00E+01	J	3.30E+01		2.90E+01											
75-05-8	ACETONITRILE	NA	NA	6.3E+02	2.20E+00	U	2.10E+00	U	2.10E+00	U										
107-02-8	ACROLEIN	NA	NA	2.1E-01	1.90E+00	c	2.20E+00	c	1.70E+00	c										
107-13-1	ACRYLONITRILE	3.6E-01	3.60E+01	2.1E+01	2.20E+00	U a	2.10E+00	U a	2.10E+00	U a										
107-05-1	ALLYL CHLORIDE	NA	NA	1.0E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U										
80-56-8	alpha-PINENE	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U										
71-43-2	BENZENE	3.1E+00	3.1E+02	3.1E+02	1.00E+00	J	7.70E-01	J	9.80E-01	J										
100-44-7	BENZENE, (CHLOROMETHYL)-	NA	NA	1.0E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U										
75-27-4	BROMODICHLOROMETHANE	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U										
75-25-2	BROMOFORM	2.2E+01	2.20E+03	NA	2.20E+00	U	2.10E+00	U	2.10E+00	U										
74-83-9	BROMOMETHANE	NA	NA	5.2E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U										
75-15-0	CARBON DISULFIDE	NA	NA	7.3E+03	1.70E+00	U	1.20E+00	U	4.70E+00	U										
56-23-5	CARBON TETRACHLORIDE	1.6E+00	1.6E+02	2.0E+03	2.20E+00	U a	2.10E+00	U a	2.10E+00	U a										
108-90-7	CHLOROBENZENE	NA	NA	5.2E+02	2.20E+00	U	2.10E+00	U	2.10E+00	U										
124-48-1	CHLORODIBROMOMETHANE	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U										
75-00-3	CHLOROETHANE	NA	NA	1.0E+05	2.20E+00	U	2.10E+00	U	2.10E+00	U										
67-66-3	CHLOROFORM	1.1E+00	1.1E+02	1.0E+03	2.20E+00	U a	4.90E+00	a	2.10E+00	U a										
74-87-3	CHLOROMETHANE	1.4E+01	1.40E+03	9.4E+02	2.20E+00	U	2.10E+00	U	2.10E+00	U										
110-82-7	CYCLOHEXANE	NA	NA	6.3E+04	4.30E+00	U	4.20E+00	U	4.10E+00	U										
75-71-8	DICHLORODIFLUOROMETHANE	NA	NA	2.1E+03	8.00E+01		6.40E+01		5.90E+01											
5989-27-5	D-LIMONENE	—	—	—	6.30E-01	J	2.10E+00	U	6.20E-01	J										
64-17-5	ETHANOL	—	—	—	3.90E+01		2.40E+01		2.50E+01											
100-41-4	ETHYLBENZENE	9.7E+00	9.7E+02	1.0E+04	1.30E+00	J	1.90E+00	J	1.70E+00	J										
87-68-3	HEXAChLOROBUTADIENE	1.1E+00	1.10E+02	NA	2.20E+00	U a	2.10E+00	U a	2.10E+00	U a										
98-82-8	ISOPROPYLBENZENE	NA	NA	4.2E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U										
80-62-6	METHYL METHACRYLATE	NA	NA	7.3E+03	4.30E+00	U	4.20E+00	U	4.10E+00	U										
1634-04-4	METHYL TERT-BUTYL ETHER (MTBE)	9.4E+01	9.40E+03	3.1E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U										
75-09-2	METHYLENE CHLORIDE	5.2E+01	5.20E+03	1.1E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U										
108-10-1	METHYL ISOBUTYL KETONE (MIBK)	NA	NA	3.1E+04	2.20E+00	U	2.10E+00	U	1.00E+00	J										
91-20-3	NAPHTHALENE	7.2E-01	7.2E+01	3.1E+01	1.20E+02	abc	3.90E+01	ac	9.20E+01	abc										
123-86-4	N-BUTYL ACETATE	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U										
142-82-5	N-HEPTANE	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U										

ATTACHMENT C-1a  
 Subslab Soil Gas Analytical Data Compared to USEPA Residential Risk-Based Screening Levels  
 103 River Road Building  
 Edgewater, New Jersey

Location Description	Q3-VI-01	Q3-VI-02	Q3-VI-03
	Medical office storage room	South stairwell	Medical office utility room
	Field Sample ID	Q3-VI-01-031809	Q3-VI-02-031809
	Sample Date	3/18/2009	3/18/2009
Units	µg/m³	µg/m³	µg/m³

Cas #	Parameter Name	USEPA Residential SGSLs									
		10-6 Target Risk (µg/m³)	10-4 Target Risk (µg/m³)	HQ=1 Target Risk (µg/m³)							
110-54-3	N-HEXANE	NA	NA	7.3E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U	
111-84-2	N-NONANE	—	—	—	5.70E-01	J	8.00E-01	J	2.10E+00	U	
103-65-1	N-PROPYLBENZENE	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	
111-65-9	OCTANE	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	
115-07-1	PROPYLENE	—	—	—	4.20E+00		1.70E+00	J	3.40E+00		
100-42-5	STYRENE	NA	NA	1.0E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U	
127-18-4	TETRACHLOROETHENE	4.1E+00	4.1E+02	2.8E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U	
109-99-9	TETRAHYDROFURAN	—	—	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	
108-88-3	TOLUENE	NA	NA	5.2E+04	3.60E+00		3.30E+00		3.60E+00		
79-01-6	TRICHLOROETHENE	1.2E+01	1.2E+03	NA	2.20E+00	U	2.10E+00	U	2.10E+00	U	
75-69-4	TRICHLOROFLUOROMETHANE	NA	NA	7.3E+03	1.80E+00	J	1.80E+00	J	1.80E+00	J	
108-05-4	VINYL ACETONE	NA	NA	2.1E+03	5.00E+00	J	1.60E+01	J	9.80E+00	J	
75-01-4	VINYL CHLORIDE	1.6E+00	1.60E+02	1.0E+03	2.20E+00	U a	2.10E+00	U a	2.10E+00	U a	
95-47-6	XYLENE, o-	NA	NA	7.3E+03	1.60E+00	J	1.80E+00	J	1.70E+00	J	
XYLENES1314	XYLENES, M & P	—	—	—	3.40E+00	J	3.50E+00	J	3.30E+00	J	
1330-20-7	XYLENES, Total - sum of isomers	NA	NA	1.0E+03	5.00E+00	J	5.30E+00	J	5.00E+00	J	

Notes:

6.30E-01      Bold indicates an exceedance of the 10-6 target risk SGSL.

—      Outlined indicates an exceedance of the 10-4 target risk SGSL.

■      Shaded indicates an exceedance of the HQ=1 target risk SGSL.

The SGSLs are based on the EPA 2008 Regional Screening Levels (September 2008) for Residential and Industrial Air.

The SGSLs were derived from the EPA 2008 RSLs by applying the EPA Vapor Intrusion Guidance (Nov 2002) default attenuation factor of 0.1.

SGSL = Soil Gas Screening Level

U = Below laboratory reporting limits

J = Data below calibration curve for that constituent, quantity estimated.

<sup>1</sup> = USEPA Region II utilizes the New York State Department of Health Air Criterion for PCE and TCE.

<sup>2</sup> = m&p-xylene were added to o-xylene and compared to the screening levels for total xylenes.

## ATTACHMENT C-2b

Subslab Soil Gas Analytical Data Compared to NJDEP Residential Screening Levels  
 163 Old River Road Building  
 Edgewater, New Jersey

Parameter Code	Parameter Name	NJDEP Residential SGSL ( $\mu\text{g}/\text{m}^3$ )	Location		Q3-VI-01		Q3-VI-02		Q3-VI-03		
			Location Description		Medical office storage room		South stairwell		Medical office utility room		
			Field Sample ID		Q3-VI-01-031809		Q3-VI-02-031809		Q3-VI-03-031809		
			Sample Date		3/18/2009		3/18/2009		3/18/2009		
Units		$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$	
71-55-6	1,1,1-TRICHLOROETHANE	5.10E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	3.40E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1.60E+06	2.20E+00	U	6.50E-01	J	2.10E+00	U	2.10E+00	U	
79-00-5	1,1,2-TRICHLOROETHANE	2.70E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
75-34-3	1,1-DICHLOROETHANE	2.60E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
75-35-4	1,1-DICHLOROETHENE	1.10E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
120-82-1	1,2,4-TRICHLOROBENZENE	1.80E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	3.60E+02	3.50E+00		2.60E+00		2.70E+00				
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
106-93-4	1,2-DIBROMOMETHANE (EDB)	3.80E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
95-50-1	1,2-DICHLOROBENZENE	7.30E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
107-06-2	1,2-DICHLOROETHANE	2.00E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
156-59-2	1,2-DICHLOROETHENE, cis-	1.80E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
156-60-5	1,2-DICHLOROETHENE, trans-	3.60E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
78-87-5	1,2-DICHLOROPROPANE	2.30E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
76-14-2	1,2-DICHLOROTETRAFLUOROETHANE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	3.10E+02	1.00E+00	J	8.60E-01	J	8.80E-01	J			
106-99-0	1,3-BUTADIENE	1.10E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
541-73-1	1,3-DICHLOROBENZENE	5.50E+02	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
10061-01-5	1,3-DICHLOROPROPENE, cis-	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
10061-02-6	1,3-DICHLOROPROPENE, trans-	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
542-75-6	1,3-DICHLOROPROPENE, Total (Sum of Isomers)	3.10E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
106-46-7	1,4-DICHLOROBENZENE	3.00E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
123-91-1	1,4-DIOXANE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
622-96-8	1-ETHYL-4-METHYL-BENZENE	—	1.00E+00	J	9.30E-01	J	7.40E-01	J			
78-93-3	2-BUTANONE (MEK)	2.60E+05	3.20E+00		9.20E+00		3.70E+00				
591-78-6	2-HEXANONE	—	9.10E-01	J	1.80E+00	J	1.80E+00	J			
67-63-0	2-PROPANOL	—	1.90E+01		7.40E+00		1.40E+01				
141-78-6	ACETIC ACID, ETHYL ESTER	—	7.30E+00		6.20E+00		5.50E+00				
67-64-1	ACETONE	1.60E+05	2.00E+01	J	3.30E+01		2.90E+01				
75-05-8	ACETONITRILE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
107-02-8	ACROLEIN	1.00E+00	3.00E+00		2.20E+00		1.70E+00				
107-13-1	ACRYLONITRILE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
107-05-1	ALLYL CHLORIDE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
80-56-8	alpha-PINENE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
71-43-2	BENZENE	1.60E+01	1.00E+00	J	7.70E-01	J	9.80E-01	J			
100-44-7	BENZENE, (CHLOROMETHYL)-	—	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
75-27-4	BROMODICHLOROMETHANE	3.40E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
75-25-2	BROMOFORM	8.00E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
74-83-9	BROMOMETHANE	2.60E+02	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
75-15-0	CARBON DISULFIDE	3.60E+04	1.70E+00	U	1.20E+00	U	4.70E+00				
56-23-5	CARBON TETRACHLORIDE	3.10E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
108-90-7	CHLOROBENZENE	2.60E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
124-48-1	CHLORODIBROMOMETHANE	4.30E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
75-00-3	CHLOROETHANE	1.10E+02	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
67-66-3	CHLOROFORM	2.40E+01	2.20E+00	U	4.90E+00		2.10E+00		2.10E+00	U	
74-87-3	CHLOROMETHANE	4.70E+03	2.20E+00	U	2.10E+00	U	2.10E+00	U	2.10E+00	U	
110-82-7	CYCLOHEXANE	3.10E+05	4.30E+00	U	4.20E+00	U	4.10E+00	U			
75-71-8	DICHLORODIFLUOROMETHANE	9.10E+04	8.00E+01		6.40E+01		5.90E+01				
5989-27-5	D-LIMONENE	—	6.30E-01	J	2.10E+00	U	6.20E-01	J			

## ATTACHMENT C-2b

Subslab Soil Gas Analytical Data Compared to NJDEP Residential Screening Levels  
 163 Old River Road Building  
 Edgewater, New Jersey

Parameter Code	Parameter Name	NJDEP Residential SGSL ( $\mu\text{g}/\text{m}^3$ )	Location		Q3-VI-01		Q3-VI-02		Q3-VI-03	
			Location Description		Medical office storage room		South stairwell		Medical office utility room	
			Field Sample ID		Q3-VI-01-031809		Q3-VI-02-031809		Q3-VI-03-031809	
			Sample Date		3/18/2009		3/18/2009		3/18/2009	
Units			$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$	
64-17-5	ETHANOL	—	3.90E+01		2.40E+01		2.50E+01			
100-41-4	ETHYLBENZENE	5.30E+04	1.30E+00	J	1.90E+00	J	1.70E+00	J		
87-68-3	HEXACHLOROBUTADIENE	5.30E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U		
98-82-8	ISOPROPYLBENZENE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U		
80-62-6	METHYL METHACRYLATE	—	4.30E+00	U	4.20E+00	U	4.10E+00	U		
1634-04-4	METHYL TERT-BUTYL ETHER (MTBE)	7.80E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U		
75-09-2	METHYLENE CHLORIDE	1.90E+02	2.20E+00	U	2.10E+00	U	2.10E+00	U		
108-10-1	METHYL ISOBUTYL KETONE (MIBK)	1.60E+05	2.20E+00	U	2.10E+00	U	1.00E+00	J		
91-20-3	NAPHTHALENE	3.00E+00	1.20E+02		3.90E+01		5.20E+01			
123-86-4	N-BUTYL ACETATE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U		
142-82-5	N-HEPTANE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U		
110-54-3	N-HEXANE	3.60E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U		
111-84-2	N-NONANE	—	5.70E-01	J	8.00E-01	J	2.10E+00	U		
103-65-1	N-PROPYLBENZENE	5.30E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U		
111-65-9	OCTANE	—	2.20E+00	U	2.10E+00	U	2.10E+00	U		
115-07-1	PROPYLENE	—	4.20E+00		1.70E+00	J	3.40E+00			
100-42-5	STYRENE	5.20E+04	2.20E+00	U	2.10E+00	U	2.10E+00	U		
127-18-4	TETRACHLOROETHENE	3.40E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U		
109-99-9	TETRAHYDROFURAN	—	2.20E+00	U	2.10E+00	U	2.10E+00	U		
108-88-3	TOLUENE	2.60E+05	3.60E+00		3.30E+00		3.60E+00			
79-01-6	TRICHLOROETHENE	2.70E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U		
75-69-4	TRICHLOROFLUOROMETHANE	3.60E+04	1.80E+00	J	1.80E+00	J	1.80E+00	J		
108-05-4	VINYL ACETONE	—	5.00E+00	J	1.60E+01	J	9.80E+00	J		
75-01-4	VINYL CHLORIDE	1.30E+01	2.20E+00	U	2.10E+00	U	2.10E+00	U		
95-47-6	XYLENE, o-	—	1.60E+00	J	1.80E+00	J	1.70E+00	J		
XYLENES1314	XYLEMES, M & P	—	3.40E+00	J	3.50E+00	J	3.30E+00	J		
1330-20-7	XYLEMES, Total - sum of isomers	5.50E+03	5.00E+00	J	5.30E+00	J	5.00E+00	J		

Notes:

6.30E-01  
 NJDEP Generic SGSLs are from the NJDEP Vapor Intrusion Guidance Table 1 (March 2007)

NJDEP = New Jersey Department of Environmental Protection

SGSL = Soil Gas Screening Level

U = Below laboratory reporting limits

J = Data below calibration curve for that constituent, quantity estimated.

<sup>1</sup> = Screening levels were provided by NJDEP for these constituents because generic screening levels were not included in the NJDEP Vapor Intrusion Guidance.

<sup>2</sup> = The NJDEP SGSLs for these constituents defaults to the method analytical reporting limit because it is higher than the risk-based screening level.

<sup>3</sup> = NJDEP in conjunction with USEPA's National Center for Environmental Assessment determined that it is appropriate to use ethylbenzene as an analog for n-propylbenzene in the development of a screening value. This screening value is not defensible as the primary driver in making cleanup decisions since it is based on limited information.

<sup>4</sup> = o-xylene and m&p-xylene were added together and compared to the screening level for total xylenes.

**Attachment D**  
**Sampling Results**

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**ATTACHMENT D-1a**

Groundwater Sampling VOC Results within 100 feet of the 103 River Road Building

103 River Road Building

Quanta Site, Edgewater, New Jersey

Location ID	MW-123	MW-124
Field Sample ID	<b>MW-123-122908</b>	<b>MW-124-122408</b>
Sample Date	12/29/2008	12/24/2008
Sample Interval	5 - 10 FT	6 - 16 FT
Sample Purpose	Normal	Normal
Sample Matrix	Groundwater	Groundwater
Units	µg/L	µg/L
<b>Parameter Name</b>		
1,1,1-Trichloroethane	5 U	1 U
1,1,2,2-Tetrachloroethane	5 U	1 U
1,1,2-Trichloroethane	5 U	1 U
1,1,2-Trichlorotrifluoroethane	--	--
1,1-Dichloroethane	5 U	<b>0.35 J</b>
1,1-Dichloroethene	5 U	<b>0.86 J</b>
1,2,4-Trichlorobenzene	25 U	5 U
1,2,4-Trimethylbenzene	<b>278</b>	5 U
1,2-Dibromo-3-chloropropane	50 U	10 U
1,2-Dibromoethane	10 U	2 U
1,2-Dichlorobenzene	5 U	1 U
1,2-Dichloroethane	5 U	1 U
1,2-Dichloroethene, cis-	5 U	<b>4.9</b>
1,2-Dichloroethene, trans-	5 U	1 U
1,2-Dichloropropane	5 U	1 U
1,3,5-Trimethylbenzene	<b>91.3</b>	5 U
1,3-Dichlorobenzene	5 U	1 U
1,3-Dichloropropene, cis-	5 U	1 U
1,3-Dichloropropene, trans-	5 U	1 U
1,4-Dichlorobenzene	5 U	1 U
2-Butanone (MEK)	50 U	10 U
2-Hexanone	25 U	5 U
4-Methyl-2-pentanone (MIBK)	25 U	5 U
Acetone	50 U	10 U
Acrolein	250 U	50 U
Benzene	<b>423</b>	1 U
Bromodichloromethane	5 U	1 U
Bromoform	20 U	4 U
Bromomethane	10 U	2 U
Carbon disulfide	10 U	2 U
Carbon tetrachloride	5 U	1 U
Chlorobenzene	5 U	1 U
Chlorodibromomethane	--	--

**ATTACHMENT D-1a**

Groundwater Sampling VOC Results within 100 feet of the 103 River Road Building  
103 River Road Building  
Quanta Site, Edgewater, New Jersey

Location ID	MW-123	MW-124
Field Sample ID	<b>MW-123-122908</b>	<b>MW-124-122408</b>
Sample Date	<b>12/29/2008</b>	<b>12/24/2008</b>
Sample Interval	<b>5 - 10 FT</b>	<b>6 - 16 FT</b>
Sample Purpose	<b>Normal</b>	<b>Normal</b>
Sample Matrix	<b>Groundwater</b>	<b>Groundwater</b>
Units	<b>µg/L</b>	<b>µg/L</b>
Parameter Name		
Chloroethane	5 U	1 U
Chloroform	5 U	1 U
Chloromethane	5 U	1 U
Cyclohexane	25 U	5 U
Dibromochloromethane	5 U	1 U
Dichlorodifluoromethane	25 U	5 U
Ethylbenzene	<b>655</b>	1 U
Freon 113	25 U	5 U
Isopropylbenzene	<b>47</b>	2 U
Methyl Acetate	25 U	5 U
Methylcyclohexane	25 U	5 U
Methylene chloride	10 U	2 U
Methyl-tert butyl ether (MTBE)	5 U	1 U
Propylbenzene, n-	<b>12.2 J</b>	5 U
Styrene	25 U	5 U
Tetrachloroethene	5 U	<b>2</b>
Toluene	<b>490</b>	1 U
Trichloroethene	5 U	<b>103</b>
Trichlorofluoromethane	25 U	5 U
Vinyl chloride	5 U	1 U
Xylene, o-	<b>400</b>	1 U
Xylenes, m/p-	<b>699</b>	1 U
Xylenes, Total	<b>1100</b>	1 U

## Notes:

U = Below laboratory reporting limits

J = Data below calibration curve for that constituent, quantity estimated.

-- = Constituent not analyzed

Bold and shaded indicates a detection.

**ATTACHMENT D-1b**

*Groundwater Sampling SVOC Results within 100 feet of the 103 River Road Building  
103 River Road Building  
Quanta Site, Edgewater, New Jersey*

Location ID	MW-123	MW-124
Field Sample ID	MW-123-122908	MW-124-122408
Sample Date	12/29/2008	12/24/2008
Sample Interval	5 - 10 FT	6 - 16 FT
Sample Purpose	Normal	Normal
Sample Matrix	Groundwater	Groundwater
Units	µg/L	µg/L
<b>Parameter Name</b>		
<b>PAHs</b>		
2-Methylnaphthalene	710	2 U
Acenaphthene	284	0.2 U
Acenaphthylene	10.5	0.2 U
Anthracene	20.9	0.2 U
Benzo(a)anthracene	1.2 J	0.1 U
Benzo(a)pyrene	0.629 J	0.1 U
Benzo(b)fluoranthene	0.974 J	0.2 U
Benzo(g,h,i)perylene	0.268 J	0.2 U
Benzo(k)fluoranthene	0.509 J	0.2 U
Chrysene	0.791 J	0.2 U
Dibenzo(a,h)anthracene	0.212 J	0.2 U
Fluoranthene	18.2	0.2 U
Fluorene	171	0.2 U
Indeno(1,2,3-cd)pyrene	0.379 J	0.2 U
Naphthalene	10500	0.724
Phenanthrene	180	0.2 U
Pyrene	13.7	0.2 U
<b>Non-PAH SVOCs</b>		
2,4,5-Trichlorophenol	5 U	5 U
2,4,6-Trichlorophenol	5 U	5 U
2,4-Dichlorophenol	5 U	5 U
2,4-Dimethylphenol	155	5 U
2,4-Dinitrophenol	20 U	20 U
2,4-Dinitrotoluene	2 U	2 U
2,6-Dinitrotoluene	2 U	2 U
2-Chloronaphthalene	5 U	5 U
2-Chlorophenol	5 U	5 U
2-Methylphenol	7.5	2 U
2-Nitroaniline	5 U	5 U
2-Nitrophenol	5 U	5 U
3&4-Methylphenol	13.9	2 U
3,3-Dichlorobenzidine	5 U	5 U
3-Nitroaniline	5 U	5 U
4,6-Dinitro-2-methylphenol	20 U	20 U
4-Bromophenyl phenyl ether	2 U	2 U
4-Chloro-3-methyl phenol	5 U	5 U
4-Chloroaniline	5 U	5 U
4-Chlorophenyl phenyl ether	2 U	2 U
4-Nitroaniline	5 U	5 U

**ATTACHMENT D-1b**

Groundwater Sampling SVOC Results within 100 feet of the 103 River Road Building

103 River Road Building

Quanta Site, Edgewater, New Jersey

Location ID	MW-123	MW-124
Field Sample ID	<b>MW-123-122908</b>	<b>MW-124-122408</b>
Sample Date	12/29/2008	12/24/2008
Sample Interval	5 - 10 FT	6 - 16 FT
Sample Purpose	Normal	Normal
Sample Matrix	Groundwater	Groundwater
Units	µg/L	µg/L
<b>Parameter Name</b>		
4-Nitrophenol	10 U	10 U
Acetophenone	--	--
Atrazine	5 U	5 U
Benzaldehyde	5 U	5 U
Biphenyl	<b>80.1</b>	2 U
bis(2-Chloroethoxy)methane	2 U	2 U
bis(2-Chloroethyl)ether	2 U	2 U
bis(2-Chloroisopropyl)ether	2 U	2 U
bis(2-Ethylhexyl)phthalate	2 U	2 U
Butylbenzylphthalate	2 U	2 U
Caprolactam	2 U	2 U
Carbazole	<b>358</b>	2 U
Dibenzofuran	<b>196</b>	5 U
Diethylphthalate	2 U	2 U
Dimethylphthalate	2 U	2 U
Di-n-butyl phthalate	2 U	2 U
Di-n-octyl phthalate	2 U	2 U
Hexachlorobenzene	0.02 U	0.02 U
Hexachlorobutadiene	1 U	1 U
Hexachlorocyclopentadiene	20 U	20 U
Hexachloroethane	5 U	5 U
Isophorone	2 U	2 U
Nitrobenzene	2 U	2 U
N-Nitroso-di-n-propylamine	2 U	2 U
N-Nitroso-di-phenylamine	5 U	5 U
Pentachlorophenol	0.3 U	0.3 U
Phenol	2 U	2 U

## Notes:

U = Below laboratory reporting limits

J = Data below calibration curve for that constituent, quantity estimated.

-- = Constituent not analyzed

Bold and shaded indicates a detection.

## ATTACHMENT D-2a

Soil Sampling VOC Results within 100 feet  
of the 103 River Road Building  
103 River Road Building  
Quanta Site, Edgewater, New Jersey

Location ID	MW-123		MW-124		SB-42		SB-47		SB-48		TL09.5-10.5		
Field Sample ID	SB-123-0.75	SB-123-4.25	SB-124-1.5	DUP-091208	SB-124-9.0	SB-42-1.0	SB-42-9.0	SB-47-1.5	SB-47-3.2	SB-48-6.0	TL 9.5-10.5-1.5	TL 9.5-10.5-3.5	TL 9.5-10.5-16.5
Sample Date	9/11/2008	9/11/2008	9/12/2008	9/12/2008	9/12/2008	8/26/2008	8/26/2008	8/27/2008	8/27/2008	8/27/2008	8/28/2008	8/28/2008	8/28/2008
Sample Interval	0.5 - 1 FT	4 - 4.5 FT	1 - 2 FT	1 - 2 FT	8 - 10 FT	0 - 1.5 FT	8.5 - 10 FT	1 - 2 FT	2.7 - 3.7 FT	5 - 7 FT	1 - 2 FT	3 - 4 FT	16 - 17 FT
Sample Matrix Units	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Parameter Name	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
1,1,1-Trichloroethane	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
1,1,2,2-Tetrachloroethane	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
1,1,2-Trichloroethane	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
1,1,2-Trichlorotrifluoroethane	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	0.0044 U	0.0069 J	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
1,1-Dichloroethene	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
1,2,4-Trichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	6.37	0.0063 U	0.0091 U	0.0083 J	0.007 U	0.0063 U	0.025 U
1,2-Dibromo-3-chloropropane	0.0087 U	0.013 U	0.012 U	0.016 U	0.018 U	0.013 U	8.3 U	0.013 U	0.018 U	0.016 U	0.014 U	0.013 U	0.049 U
1,2-Dibromoethane	0.00087 U	0.0013 U	0.0012 U	0.0016 U	0.0018 U	0.0013 U	0.83 U	0.0013 U	0.0018 U	0.0016 U	0.0014 U	0.0013 U	0.0049 U
1,2-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.00087 U	0.0013 U	0.0012 U	0.0016 U	0.0018 U	0.0013 U	0.83 U	0.0013 U	0.0018 U	0.0016 U	0.0014 U	0.0013 U	0.0049 U
1,2-Dichloroethene, cis-	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
1,2-Dichloroethene, trans-	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
1,2-Dichloropropane	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
1,3,5-Trimethylbenzene	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	7.22	0.0063 U	0.0091 U	0.0025 J	0.007 U	0.0063 U	0.025 U
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene, cis-	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
1,3-Dichloropropene, trans-	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
1,4-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Butanone (MEK)	0.0087 U	0.013 U	0.012 U	0.016 U	0.018 U	0.013 U	8.3 U	0.013 U	0.018 U	0.016 U	0.014 U	0.013 U	0.049 U
2-Hexanone	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
4-Methyl-2-pentanone (MIBK)	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
Acetone	0.0087 U	0.0434 J	0.0279	0.0441	0.018 U	0.013 U	8.3 U	0.013 U	0.018 U	0.016 UJ	0.0077 J	0.013 U	0.0612
Acrolein	0.044 U	0.067 U	0.062 U	0.08 U	0.091 U	0.063 U	42 U	0.063 U	0.091 U	0.079 U	0.07 U	0.063 U	0.25 U
Benzene	0.00087 U	0.0188	0.0012 U	0.0016 U	0.0018 U	0.0013 U	0.779 J	0.0013 U	0.0018 U	0.0016 U	0.0014 U	0.0013 U	0.0049 U
Bromodichloromethane	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
Bromoform	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
Bromomethane	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
Carbon disulfide	0.0044 U	0.0021 J	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.0114 J
Carbon tetrachloride	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
Chlorobenzene	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
Chlorodibromomethane	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
Chloroform	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
Chloromethane	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
Cyclohexane	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 NJ	0.0063 NJ	0.025 U
Dibromochloromethane	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
Dichlorodifluoromethane	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.006	

## ATTACHMENT D-2a

Soil Sampling VOC Results within 100 feet

of the 103 River Road Building

103 River Road Building

Quanta Site, Edgewater, New Jersey

Location ID	MW-123		MW-124		SB-42		SB-47		SB-48		TL09.5-10.5			
Field Sample ID	SB-123-0.75	SB-123-4.25	SB-124-1.5	DUP-091208	SB-124-9.0	SB-42-1.0	SB-42-9.0	SB-47-1.5	SB-47-3.2	SB-48-6.0	TL 9.5-10.5-1.5	TL 9.5-10.5-3.5	TL 9.5-10.5-16.5	
Sample Date	9/11/2008	9/11/2008	9/12/2008	9/12/2008	9/12/2008	8/26/2008	8/26/2008	8/27/2008	8/27/2008	8/27/2008	8/28/2008	8/28/2008	8/28/2008	
Sample Interval	0.5 - 1 FT	4 - 4.5 FT	1 - 2 FT	1 - 2 FT	8 - 10 FT	0 - 1.5 FT	8.5 - 10 FT	1 - 2 FT	2.7 - 3.7 FT	5 - 7 FT	1 - 2 FT	3 - 4 FT	16 - 17 FT	
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Parameter Name														
Toluene	<b>0.00055 J</b>	<b>0.0026</b>		0.0012 U	<b>0.00062 J</b>	0.0018 U	0.0013 U	<b>0.45 J</b>	0.0013 U	0.0018 U	0.0016 U	0.0014 U	0.0013 U	0.0049 U
Trichloroethene	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U	
Trichlorofluoromethane	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U	
Vinyl chloride	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U	
Xylene, o-	0.00087 U	0.0013 U	0.0012 U	0.0016 U	0.0018 U	0.0013 U	<b>1.77</b>	0.0013 U	0.0018 U	0.0016 U	0.0014 U	0.0013 U	0.0049 U	
Xylenes, m/p-	0.0017 U	0.0027 U	0.0025 U	0.0032 U	0.0036 U	0.0025 U	<b>0.94 J</b>	0.0025 U	0.0036 U	0.0031 U	0.0028 U	0.0025 U	0.0099 U	
Xylenes, Total	0.0017 U	0.0027 U	0.0025 U	0.0032 U	0.0036 U	0.0025 U	<b>2.71</b>	0.0025 U	0.0036 U	0.0031 U	0.0028 U	0.0025 U	0.0099 U	

Notes:

U = Below laboratory reporting limits

J = Data below calibration curve for  
that constituent, quantity estimated

- = Constituent not analyzed

**Bold** and shaded indicates a detection.

## ATTACHMENT D-2a

Soil Sampling VOC Results within 100 feet  
of the 103 River Road Building  
103 River Road Building  
Quanta Site, Edgewater, New Jersey

Location ID	TL09.5-11.25						TL10.5-10.5						TL10.5-11.25						TL10-09.5		TL11-11.75		TL12-10.75	
	Field Sample ID	TL 9.5-11.25-0.5	TL 9.5-11.25-7.5	TL 10.5-10.5-0.5	TL 10.5-10.5-4.0	TL 10.5-10.5-14.5	DUP-082708	TL 10.5-11.25-0.5	TL 10.5-11.25-8.5	TL 10.5-11.25-12	TL 10.9-5.7.5	DUP-090408	TL 11-11.75-11	TL12-10.75-7.0	TL12-10.75-14.5									
Sample Date	8/28/2008	8/28/2008	8/27/2008	8/27/2008	8/27/2008	8/27/2008	8/28/2008	8/28/2008	8/28/2008	9/4/2008	9/4/2008	8/27/2008	10/16/2006	10/16/2006										
Sample Interval	0 - 1 FT	5 - 10 FT	0 - 1 FT	3.5 - 4.5 FT	14 - 15 FT	14 - 15 FT	0 - 1 FT	8 - 9 FT	11 - 12 FT	6.5 - 8.5 FT	6.5 - 8.5 FT	10 - 12 FT	5 - 7.5 FT	13 - 15.5 FT										
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil										
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg										
Parameter Name																								
1,1,1-Trichloroethane	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
1,1,2,2-Tetrachloroethane	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
1,1,2-Trichloroethane	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
1,1,2-Trichlorotrifluoroethane	-	-	-	-	-	-	-	-	-	-	-	-	-	0.46 U	25 U									
1,1-Dichloroethane	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
1,1-Dichloroethene	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
1,2,4-Trichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.46 U	25 U									
1,2,4-Trimethylbenzene	0.0058 U	0.0059 U	0.0083 U	0.0057 U	157	128	0.0015 J	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	-	-										
1,2-Dibromo-3-chloropropane	0.012 U	0.012 U	0.017 U	0.011 U	54 U	70 U	0.01 U	0.021 U	0.03 U	0.018 U	1.6 U	0.042 U	0.92 U	49 U										
1,2-Dibromoethane	0.0012 U	0.0012 U	0.0017 U	0.0011 U	5.4 U	7 U	0.001 U	0.0021 U	0.003 U	0.0018 U	0.16 U	0.0042 U	0.092 U	4.9 U										
1,2-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.46 U	25 U									
1,2-Dichloroethane	0.0012 U	0.0012 U	0.0017 U	0.0011 U	5.4 U	7 U	0.001 U	0.0021 U	0.003 U	0.0018 U	0.16 U	0.0042 U	0.092 U	4.9 U										
1,2-Dichloroethene, cis-	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.0059 J	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
1,2-Dichloroethene, trans-	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
1,2-Dichloropropane	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
1,3,5-Trimethylbenzene	0.0058 U	0.0059 U	0.0083 U	0.0057 U	61.5	50.2	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	-	-										
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.46 U	25 U									
1,3-Dichloropropene; cis-	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
1,3-Dichloropropene, trans-	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
1,4-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.46 U	25 U									
2-Butanone (MEK)	0.012 U	0.012 U	0.017 U	0.011 U	54 U	70 U	0.01 U	0.021 U	0.03 U	0.018 U	1.6 U	0.042 U	0.92 U	49 U										
2-Hexanone	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
4-Methyl-2-pentanone (MIBK)	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
Acetone	0.012 U	0.012 U	0.017 U	0.011 UJ	54 U	70 U	0.01 U	0.021 U	0.0387	0.018 U	1.6 UJ	0.121	0.92 U	49 U										
Acrolein	0.058 U	0.059 U	0.083 U	0.057 U	270 U	350 U	0.051 U	0.11 U	0.15 U	0.089 U	8 U	0.21 U	-	-										
Benzene	0.0012 U	0.0012 U	0.0017 U	0.0011 U	3.13 J	2.76 J	0.001 U	0.0021 U	0.003 U	0.0018 U	0.16 U	0.0042 U	2.7	29.3										
Bromodichloromethane	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
Bromoform	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
Bromomethane	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
Carbon disulfide	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.0264	0.0031 J	0.8 U	0.021 U	0.46 U	25 U										
Carbon tetrachloride	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
Chlorobenzene	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
Chlorodibromomethane	-	-	-	-	-	-	-	-	-	-	-	-	-	0.46 U	25 U									
Chloroethane	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
Chloroform	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										
Chloromethane	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U										

## ATTACHMENT D-2a

Soil Sampling VOC Results within 100 feet  
of the 103 River Road Building  
103 River Road Building  
Quanta Site, Edgewater, New Jersey

Location ID	TL09.5-11.25			TL10.5-10.5			TL10.5-11.25			TL10-09.5			TL11-11.75		TL12-10.75	
	Field Sample ID	TL 9.5-11.25-0.5	TL 9.5-11.25-7.5	TL 10.5-10.5-0.5	TL 10.5-10.5-4.0	TL 10.5-10.5-14.5	DUP-082708	TL 10.5-11.25-0.5	TL 10.5-11.25-8.5	TL 10.5-11.25-12	TL 10-9.5-7.5	DUP-090408	TL 11-11.75-11	TL12-10.75-7.0	TL12-10.75-14.5	
Sample Date	8/28/2008	8/28/2008	8/27/2008	8/27/2008	8/27/2008	8/27/2008	8/28/2008	8/28/2008	8/28/2008	8/28/2008	9/4/2008	9/4/2008	8/27/2008	10/16/2006	10/16/2006	
Sample Interval	0 - 1 FT	5 - 10 FT	0 - 1 FT	3.5 - 4.5 FT	14 - 15 FT	14 - 15 FT	0 - 1 FT	8 - 9 FT	11 - 12 FT	6.5 - 8.5 FT	6.5 - 8.5 FT	10 - 12 FT	5 - 7.5 FT	13 - 15.5 FT		
Sample Matrix Units	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Parameter Name																
Toluene	0.0012 U	0.0012 U	<b>0.00075 J</b>	0.0011 U	14.4	12.2	0.001 U	0.0021 U	<b>0.0026 J</b>	0.0018 U	0.16 U	0.0042 U	<b>0.296</b>	70.7		
Trichloroethene	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U		
Trichlorofluoromethane	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	0.46 U	25 U		
Vinyl chloride	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	<b>0.26</b>	<b>0.0082 J</b>	0.0089 U	0.8 U	0.021 U	0.46 U	25 U		
Xylene, o-	0.0012 U	0.0012 U	<b>0.0011 J</b>	0.0011 U	60.1	47.2	0.001 U	0.0021 U	0.003 U	0.0018 U	0.16 U	0.0042 U	<b>0.296</b>	93.1		
Xylenes, m/p-	0.0023 U	0.0023 U	<b>0.0027 J</b>	0.0023 U	114	90.9	0.002 U	0.0043 U	0.006 U	0.0036 U	0.32 U	0.0083 U	<b>0.786</b>	195		
Xylenes, Total	0.0023 U	0.0023 U	<b>0.0038</b>	0.0023 U	174	138	0.002 U	0.0043 U	0.006 U	0.0036 U	0.32 U	0.0083 U	<b>1.08</b>	288		

Notes:

U = Below laboratory reporting limits

J = Data below calibration curve for  
that constituent, quantity estimated

— = Constituent not analyzed

**Bold** and shaded indicates a detection.

## ATTACHMENT D-2b

Soil Sampling SVOC Results within 100 feet  
of the 103 River Road Building  
103 River Road Building  
Quanta Site, Edgewater, New Jersey

Location ID	MW-123		MW-124		SB-42		SB-47		SB-48		TL09.5-10.5		
Field Sample ID	SB-123-0.75	SB-123-4.25	SB-124-1.5	DUP-091208	SB-124-9.0	SB-42-1.0	SB-42-9.0	SB-47-1.5	SB-47-3.2	SB-48-6.0	TL 9.5-10.5-1.5	TL 9.5-10.5-3.5	TL 9.5-10.5-16.5
Sample Date	9/11/2008	9/11/2008	9/12/2008	9/12/2008	9/12/2008	8/26/2008	8/26/2008	8/27/2008	8/27/2008	8/27/2008	8/28/2008	8/28/2008	8/28/2008
Sample Interval	0.5 - 1 FT	4 - 4.5 FT	1 - 2 FT	1 - 2 FT	8 - 10 FT	0 - 1.5 FT	8.5 - 10 FT	1 - 2 FT	2.7 - 3.7 FT	5 - 7 FT	1 - 2 FT	3 - 4 FT	16 - 17 FT
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
<b>Parameter Name</b>													
<b>PAHs</b>													
2-Methylnaphthalene	0.42 U	1.81	0.16 J	0.123 J	0.095 U	2.1 U	20.6	1 U	0.089 U	0.0513 J	0.115 J	0.47 U	1.3 U
Acenaphthene	0.21 U	5.02	1.18	0.867	0.047 U	1 U	257	2.07	0.045 U	0.185	0.901	0.452	1.82
Acenaphthylene	0.21 U	0.24 U	0.2 U	0.21 U	0.047 U	1 U	10.8	0.343 J	0.045 U	0.042 U	0.131 J	0.18 J	0.63 U
Anthracene	0.21 U	0.24 U	1.88	1.15	0.047 U	1 U	144	1.63	0.0269 J	0.269	1.34	0.782	3.69
Benzo(a)anthracene	0.188 J	0.24 U	7.85	3.97	0.047 U	1 U	98.4	8.89	0.125	0.706	4.74	5.15	0.964
Benzo(a)pyrene	0.253	0.24 U	6.85	3.77	0.0329 J	1 U	62.5	11.7	0.135	0.738	5.17	6.24	0.606 J
Benzo(b)fluoranthene	0.651	0.24 U	10	5.46	0.0357 J	1 U	44.8	9.22	0.0899	0.741	4.19	5.54	0.46 J
Benzo(g,h,i)perylene	0.247	0.24 U	4.8	2.72	0.0244 J	1 U	23.5	8.07	0.094	0.521	3.92	3.78	0.361 J
Benzo(k)fluoranthene	0.111 J	0.24 U	3.56	1.64	0.047 U	1 U	50.7	8.77	0.0931	0.639	3.71	3.85	0.508 J
Chrysene	0.198 J	0.24 U	7.66	4.01	0.047 U	1 U	88.9	9.81	0.139	0.866	4.71	5.34	1.04
Dibenzo(a,h)anthracene	0.21 U	0.24 U	1.46	0.782	0.047 U	1 U	8.42	3.08	0.0349 J	0.213	1.38	1.41	0.63 U
Fluoranthene	0.33	0.24 U	16.9	8.3	0.0398 J	1 U	340	14.8	0.203	2.28	8.02	7.45	3.49
Fluorene	0.21 U	3.13	0.772	0.479	0.047 U	1 U	299	0.566	0.045 U	0.109	0.444	0.219 J	0.457 J
Indeno(1,2,3-cd)pyrene	0.179 J	0.24 U	4.67	2.44	0.019 J	1 U	212	7.48	0.0768	0.508	3.52	3.71	0.339 J
Naphthalene	0.21 U	18.7	0.227	0.168 J	0.047 U	1 U	21.7	0.52 U	0.0551	0.179	0.148 J	0.127 J	0.63 U
Phenanthrene	0.267	0.501	13.3	7.72	0.0257 J	1 U	723	7.88	0.0671	2.18	4.78	2.88	0.677
Pyrene	0.262	0.24 U	12.3	6.27	0.0441 J	1 U	280	12.3	0.204	1.45	8.25	7.71	2.7
<b>Non-PAH SVOCs</b>													
1,2,4-Trichlorobenzene	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
1,2-Dichlorobenzene	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
1,3-Dichlorobenzene	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
1,4-Dichlorobenzene	0.0044 U	0.0067 U	0.0062 U	0.008 U	0.0091 U	0.0063 U	4.2 U	0.0063 U	0.0091 U	0.0079 U	0.007 U	0.0063 U	0.025 U
2,4,5-Trichlorophenol	1 U	1.2 U	1 U	1 U	0.24 U	5.2 U	1.2 U	2.6 U	0.22 U	0.21 U	1 U	1.2 U	3.1 U
2,4,6-Trichlorophenol	1 U	1.2 U	1 U	1 U	0.24 U	5.2 U	1.2 U	2.6 U	0.22 U	0.21 U	1 U	1.2 U	3.1 U
2,4-Dichlorophenol	1 U	1.2 U	1 U	1 U	0.24 U	5.2 U	1.2 U	2.6 U	0.22 U	0.21 U	1 U	1.2 U	3.1 U
2,4-Dimethylphenol	1 U	1.2 U	1 U	1 U	0.24 U	5.2 U	1.2 U	2.6 U	0.22 U	0.21 U	1 U	1.2 U	3.1 U
2,4-Dinitrophenol	4.2 U	4.9 UJ	4 U	4.1 U	0.95 U	21 U	4.8 U	10 U	0.89 U	0.84 U	4.2 U	4.7 U	13 U
2,4-Dinitrotoluene	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U
2,6-Dinitrotoluene	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U
2-Chloronaphthalene	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U
2-Chlorophenol	1 U	1.2 U	1 U	1 U	0.24 U	5.2 U	1.2 U	2.6 U	0.22 U	0.21 U	1 U	1.2 U	3.1 U
2-Methylphenol	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U
2-Nitroaniline	1 U	1.2 U	1 U	1 U	0.24 U	5.2 U	1.2 U	2.6 U	0.22 U	0.21 U	1 U	1.2 U	3.1 U
2-Nitrophenol	1 U	1.2 U	1 U	1 U	0.24 U	5.2 U	1.2 U	2.6 U	0.22 U	0.21 U	1 U	1.2 U	3.1 U
3&4-Methylphenol	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U
3,3-Dichlorobenzidine	1 U	1.2 U	1 U	1 U	0.24 U	5.2 U	1.2 U	2.6 U	0.22 U	0.21 U	1 U	1.2 U	3.1 U
3-Nitroaniline	1 U	1.2 U	1 U	1 U	0.24 U	5.2 U	1.2 U	2.6 U	0.22 U	0.21 U	1 U	1.2 U	3.1 U
4,6-Dinitro-2-methylphenol	4.2 U	4.9 U	4 U	4.1 U	0.95 U	21 U	4.8 U	10 U	0.89 U	0.84 U	4.2 U	4.7 U	13 U
4-Bromophenyl phenyl ether	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U
4-Chloro-3-methyl phenol	1 U	1.2 U	1 U	1 U	0.24 U	5.2 U	1.2 U	2.6 U	0.22 U	0.21 U	1 U	1.2 U	3.1 U
4-Chloroaniline	1 U	1.2 U	1 U	1 U	0.24 U	5.2 U	1.2 U	2.6 U	0.22 U	0.21 U	1 U	1.2 U	3.1 U
4-Chlorophenyl phenyl ether	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U
4-Nitroaniline	1 U	1.2 U											

## ATTACHMENT D-2b

Soil Sampling SVOC Results within 100 feet  
of the 103 River Road Building  
103 River Road Building  
Quanta Site, Edgewater, New Jersey

Location ID	MW-123		MW-124		SB-42		SB-47		SB-48		TL09.5-10.5				
	Field Sample ID	SB-123-0.75	SB-123-4.25	Sample Date	SB-124-1.5	DUP-091208	SB-124-9.0	SB-42-1.0	SB-42-9.0	SB-47-1.5	SB-47-3.2	SB-48-6.0	TL 9.5-10.5-1.5	TL 9.5-10.5-3.5	TL 9.5-10.5-16.5
	9/11/2008	9/11/2008	9/12/2008	4 - 4.5 FT	1 - 2 FT	8 - 10 FT	0 - 1.5 FT	8.5 - 10 FT	1 - 2 FT	2.7 - 3.7 FT	5 - 7 FT	1 - 2 FT	3 - 4 FT	16 - 17 FT	
	Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Parameter Name															
bis(2-Chloroethoxy)methane	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U		
bis(2-Chloroethyl)ether	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U		
bis(2-Chloroisopropyl)ether	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U		
bis(2-Ethylhexyl)phthalate	0.42 U	0.49 U	0.291 U	0.41 U	0.0808 U	2.1 U	0.48 U	1 U	0.137 U	0.065 U	0.335 U	0.267 U	1.3 U		
Butylbenzylphthalate	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U		
Caprolactam	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U		
Carbazole-	0.42 U	2.53	3.62	1.44	0.095 U	2.1 U	5.02	1.1	0.089 U	0.333	0.467	0.324 J	0.591 J		
Dibenzofuran	0.42 U	2.37	0.848	0.592	0.095 U	2.1 U	189	0.302 J	0.089 U	0.187	0.223 J	0.174 J	1.22 J		
Diethylphthalate	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U		
Dimethylphthalate	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U		
Di-n-butyl phthalate	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U		
Di-n-octyl phthalate	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U		
Hexachlorobenzene	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U		
Hexachlorobutadiene	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U		
Hexachlorocyclopentadiene	4.2 U	4.9 U	4 U	4.1 U	0.95 U	21 U	4.8 U	10 U	0.89 U	0.84 U	4.2 U	4.7 U	13 U		
Hexachloroethane	1 U	1:2 U	1 U	1 U	0.24 U	5.2 U	1.2 U	2.6 U	0.22 U	0.21 U	1:U	1.2 U	3.1 U		
Isophorone	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U		
Nitrobenzene	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U		
N-Nitroso-di-n-propylamine	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U		
N-Nitroso-di-phenylamine	1 U	1.2 U	1 U	1 U	0.24 U	5.2 U	1.2 U	2.6 U	0.22 U	0.21 U	1 U	1.2 U	3.1 U		
Pentachlorophenol	2.1 U	2.4 U	2 U	2.1 U	0.47 U	10 U	2.4 U	5.2 U	0.45 U	0.42 U	2.1 U	2.4 U	6.3 U		
Phenol	0.42 U	0.49 U	0.4 U	0.41 U	0.095 U	2.1 U	0.48 U	1 U	0.089 U	0.084 U	0.42 U	0.47 U	1.3 U		

Notes:

U = Below laboratory reporting limits

J = Data below calibration curve for that constituent, quantity estimated.

- = Constituent not analyzed

Bold and shaded indicates a detection.

## ATTACHMENT D-2b

Soil Sampling SVOC Results within 100 feet  
of the 103 River Road Building  
103 River Road Building  
Quanta Site, Edgewater, New Jersey

Location ID	TL09.5-11.25		TL10.5-10.5				TL10.5-11.25				TL10-09.5		TL11-11.75		TL12-10.75	
Field Sample ID	TL 9.5-11.25-0.5	TL 9.5-11.25-7.5	TL 10.5-10.5-0.5	TL 10.5-10.5-4.0	TL 10.5-10.5-14.5	DUP-082708	TL 10.5-11.25-0.5	TL 10.5-11.25-8.5	TL 10.5-11.25-12	TL 10-9.5-7.5	DUP-090408	TL 11-11.75-11	TL12-10.75-7.0	TL12-10.75-14.5		
Sample Date	8/28/2008	8/28/2008	8/27/2008	8/27/2008	8/27/2008	8/27/2008	8/28/2008	8/28/2008	8/28/2008	9/4/2008	9/4/2008	8/27/2008	10/16/2006	10/16/2006		
Sample Interval	0 - 1 FT	5 - 10 FT	0 - 1 FT	3.5 - 4.5 FT	14 - 15 FT	14 - 15 FT	0 - 1 FT	8 - 9 FT	11 - 12 FT	6.5 - 8.5 FT	6.5 - 8.5 FT	10 - 12 FT	5 - 7.5 FT	13 - 15.5 FT		
Sample Matrix Units	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil		
Parameter Name	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
PAHs																
2-Methylnaphthalene	0.4 U	0.47 U	8.73 J	1.35	1850	1240	0.41 U	0.12 U	0.7 U	0.0335 J	0.0628 J	0.0583 J	0.741	1480		
Acenaphthene	0.386	0.123 J	70.3	7.28	1710	1290	0.21 U	0.058 U	0.35 U	0.0919	0.155	0.094 U	14.1	1050		
Acenaphthylene	0.435	0.14 J	10 U	1.39	60.6	52.4	0.21 U	0.058 U	0.35 U	0.0682	0.117	0.094 U	0.47	54.2		
Anthracene	0.987	0.359	69.4	6.46	1010	702	0.113 J	0.0293 J	0.35 U	0.165	0.262	0.094 U	1.23	646		
Benzo(a)anthracene	3.54	1.88	205	25.4	526	400	0.391	0.0914	0.35 U	0.309	0.494	0.0591 J	1.9	399		
Benzo(a)pyrene	3.77	1.96	255	34.5	346	267	0.372	0.0929	0.35 U	0.292 J	0.476 J	0.055 J	1.8	240		
Benzo(b)fluoranthene	4.44	2	200	26	288	186	0.381	0.0699	0.35 U	0.249 J	0.467 J	0.094 U	2.02	165		
Benzo(g,h,i)perylene	2.77	1.54	140	21.3	153	113	0.296	0.0735	0.35 U	0.147	0.229	0.0464 J	0.956	77.8		
Benzo(k)fluoranthene	2.31	1.33	163	20.4	232 J	112 J	0.318	0.0645	0.35 U	0.252	0.378	0.0482 J	1.31	202		
Chrysene	4.04	2.07	211	26.9	481	368	0.438	0.093	0.35 U	0.356	0.558	0.0586 J	1.87	337		
Dibenz(a,h)anthracene	1.03	0.56	46.2	7.77	57.3	38.1	0.103 J	0.058 U	0.35 U	0.0508	0.0792	0.094 U	0.41	31.4		
Fluoranthene	9.51	3.41	349	38.4	2260	1740	0.932	0.166	0.35 U	0.57 J	0.985 J	0.144	3.35	1710		
Fluorene	0.351	0.23 U	29.6	2.3	1620	1140	0.21 U	0.058 U	0.35 U	0.0664 J	0.0511 UJ	0.094 U	10.3	1080		
Indeno(1,2,3-cd)pyrene	2.64	1.39	135	20.9	144	110	0.268	0.0608	0.35 U	0.131	0.21	0.094 U	0.995	81.9		
Naphthalene	0.15 J	0.23 U	20.3	2.18	5080	3410	0.21 U	0.0445 J	0.35 U	0.131	0.195	0.412	11	5360		
Phenanthrene	3.12	1.41	220	18.6	4490	3380	0.681	0.1	0.35 U	0.372 J	0.644 J	0.0585 J	14	3310		
Pyrene	7.96	3.13	284	34.2	1570	1190	0.809	0.189	0.35 U	0.499	0.714	0.134	2.17	1170		
Non-PAH SVOCs																
1,2,4-Trichlorobenzene	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 UJ	-	-		
1,2-Dichlorobenzene	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	-	-		
1,3-Dichlorobenzene	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	-	-		
1,4-Dichlorobenzene	0.0058 U	0.0059 U	0.0083 U	0.0057 U	27 U	35 U	0.0051 U	0.011 U	0.015 U	0.0089 U	0.8 U	0.021 U	-	-		
2,4,5-Trichlorophenol	1 U	1.2 U	51 U	1.1 U	7.2 U	7.3 U	1 U	0.29 U	1.8 U	0.24 U	0.26 U	0.47 U	0.21 U	6.3 U		
2,4,6-Trichlorophenol	1 U	1.2 U	51 U	1.1 U	7.2 U	7.3 U	1 U	0.29 U	1.8 U	0.24 U	0.26 U	0.47 U	0.21 U	6.3 U		
2,4-Dichlorophenol	1 U	1.2 U	51 U	1.1 U	7.2 U	7.3 U	1 U	0.29 U	1.8 U	0.24 U	0.26 U	0.47 U	0.21 U	6.3 U		
2,4-Dimethylphenol	1 U	1.2 U	51 U	1.1 U	7.2 U	7.3 U	1 U	0.29 U	1.8 U	0.24 U	0.26 U	0.47 U	0.21 U	8.34		
2,4-Dinitrophenol	4 U	4.7 U	200 U	4.5 U	29 U	29 U	4.1 U	1.2 U	7 U	0.95 U	1 U	1.9 U	0.83 U	25 U		
2,4-Dinitrotoluene	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
2,6-Dinitrotoluene	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
2-Chloronaphthalene	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
2-Chlorophenol	1 U	1.2 U	51 U	1.1 U	7.2 U	7.3 U	1 U	0.29 U	1.8 U	0.24 U	0.26 U	0.47 U	0.21 U	6.3 U		
2-Methylphenol	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.21 U	6.3 U		
2-Nitroaniline	1 U	1.2 U	51 U	1.1 U	7.2 U	7.3 U	1 U	0.29 U	1.8 U	0.24 U	0.26 U	0.47 U	0.21 U	6.3 U		
2-Nitrophenol	1 U	1.2 U	51 U	1.1 U	7.2 U	7.3 U	1 U	0.29 U	1.8 U	0.24 U	0.26 U	0.47 U	0.21 U	6.3 U		
3&4-Methylphenol	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.21 U	6.3 U		
3,3-Dichlorobenzidine	1 U	1.2 U	51 U	1.1 U	7.2 U	7.3 U	1 U	0.29 U	1.8 U	0.24 U	0.26 U	0.47 U	0.21 U	6.3 U		
3-Nitroaniline	1 U	1.2 U	51 U	1.1 U	7.2 U	7.3 U	1 U	0.29 U	1.8 U	0.24 U	0.26 U	0.47 U	0.21 U	6.3 U		
4,6-Dinitro-2-methylphenol	4 U	4.7 U	200 U	4.5' U	29 U	29 U	4.1 U	1.2 U	7 U	0.95 U	1 U	1.9 U	0.83 U	25 U		
4-Bromophenyl phenyl ether	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U									

## ATTACHMENT D-2b

Soil Sampling SVOC Results within 100 feet  
of the 103 River Road Building  
103 River Road Building  
Quanta Site, Edgewater, New Jersey

Location ID	TL09.5-11.25			TL10.5-10.5			TL10.5-11.25			TL10-09.5			TL11-11.75		TL12-10.75	
	Field Sample ID	TL 9.5-11.25-0.5	TL 9.5-11.25-7.5	TL 10.5-10.5-0.5	TL 10.5-10.5-4.0	TL 10.5-10.5-14.5	DUP-082708	TL 10.5-11.25-0.5	TL 10.5-11.25-8.5	TL 10.5-11.25-12	TL 10-9.5-7.5	DUP-090408	TL 11-11.75-11	TL12-10.75-7.0	TL12-10.75-14.5	
	Sample Date	8/28/2008	8/28/2008	8/27/2008	8/27/2008	8/27/2008	8/27/2008	8/28/2008	8/28/2008	8/28/2008	9/4/2008	9/4/2008	8/27/2008	10/16/2006	10/16/2006	
	Sample Interval	0 - 1 FT	5 - 10 FT	0 - 1 FT	3.5 - 4.5 FT	14 - 15 FT	14 - 15 FT	0 - 1 FT	8 - 9 FT	11 - 12 FT	6.5 - 8.5 FT	6.5 - 8.5 FT	10 - 12 FT	5 - 7.5 FT	13 - 15.5 FT	
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Parameter Name																
bis(2-Chloroethoxy)methane	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
bis(2-Chloroethyl)ether	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
bis(2-Chloroisopropyl)ether	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
bis(2-Ethylhexyl)phthalate	0.4 U	1.39 J	20 U	0.45 U	2.9 U	2.9 U	0.59	0.313	0.7 U	0.0657 J	0.0885 J	0.19 U	0.083 U	2.5 U		
Butylbenzylphthalate	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
Caprolactam	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
Carbazole	0.303 J	0.119 J	29.6	2.42	303	200	0.0997 J	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	3.08	198		
Dibenzofuran	0.183 J	0.47 U	14.4 J	1.27	1310	966	0.41 U	0.12 U	0.7 U	0.095 U	0.0582 J	0.19 U	8.86	797		
Diethylphthalate	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
Dimethylphthalate	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
Di-n-butyl phthalate	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
Di-n-octyl phthalate	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
Hexachlorobenzene	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
Hexachlorobutadiene	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
Hexachlorocyclopentadiene	4 U	4.7 U	200 U	4.5 U	29 U	29 U	4.1 U	1.2 U	7 U	0.95 U	1 U	1.9 U	0.83 UJ	25 UJ		
Hexachloroethane	1 U	1.2 U	51 U	1.1 U	7.2 U	7.3 U	1 U	0.29 U	1.8 U	0.24 U	0.26 U	0.47 U	0.21 U	6.3 U		
Isophorone	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
Nitrobenzene	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
N-Nitroso-di-n-propylamine	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.083 U	2.5 U		
N-Nitroso-di-phenylamine	1 U	1.2 U	51 U	1.1 U	7.2 U	7.3 U	1 U	0.29 U	1.8 U	0.24 U	0.26 U	0.47 U	0.21 U	6.3 U		
Pentachlorophenol	2 U	2.3 U	100 U	2.2 U	14 U	15 U	2.1 U	0.58 U	3.5 U	0.47 U	0.51 U	0.94 U	0.83 UJ	25 UJ		
Phenol	0.4 U	0.47 U	20 U	0.45 U	2.9 U	2.9 U	0.41 U	0.12 U	0.7 U	0.095 U	0.1 U	0.19 U	0.21 U	6.3 U		

Notes:

U = Below laboratory reporting limits

J = Data below calibration curve for that c

- = Constituent not analyzed